EXPLORING THE USE OF TECHNOLOGY AND INNOVATION TO CREATE EFFICIENCIES AND HIGHER QUALITY IN HEALTH CARE

HEARING

BEFORE THE

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OF THE

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EXPLORING THE USE OF TECHNOLOGY AND INNOVATION TO CREATE EFFICIENCIES AND HIGHER QUALITY IN HEALTH CARE

WEDNESDAY, SEPTEMBER 14, 2016

HOUSE OF REPRESENTATIVES,
COMMITTEE ON WAYS AND MEANS,
SUBCOMMITTEE ON HEALTH,
Washington, D.C.

The subcommittee met, pursuant to call, at 10:05 a.m., in Room 1100, Longworth House Office Building, Hon. Pat Tiberi [chairman of the subcommittee] presiding.

[The advisory announcing the hearing follows:]

WAYS AND MEANS
CHAIRMAN KEVIN BRADY

Chairman Tiberi Announces Hearing on Exploring the Use of Technology and Innovation to Create Efficiencies and Higher Quality in Health Care

House Ways and Means Health Subcommittee Chairman Pat Tiberi (R-OH) announced today that the Subcommittee will hold a hearing on Exploring the Use of Technology and Innovation to Create Efficiencies, Higher Quality, and Better Access for Beneficiaries in Health Care. **The hearing will take place on Wednesday, September 14, 2016 in 1100 Longworth House Office Building, beginning at 10:00 AM.**

In view of the limited time to hear witnesses, oral testimony at this hearing will be from invited witnesses only. However, any individual or organization may submit a written statement for consideration by the Committee and for inclusion in the printed record of the hearing.

DETAILS FOR SUBMISSION OF WRITTEN COMMENTS:

Please Note: Any person(s) and/or organization(s) wishing to submit written comments for the hearing record must follow the appropriate link on the hearing page of the Committee website and complete the informational forms. From the Committee homepage, http://waysandmeans.house.gov, select "Hearings." Select the hearing for which you would like to make a submission, and click on the link entitled, "Click here to provide a submission for the record." Once you have followed the online instructions, submit all requested information. ATTACH your submission as a Word document, in compliance with the formatting requirements listed below, **by the close of business on Wednesday, September 28, 2016**. For questions, or if you encounter technical problems, please call (202) 225-3943.

FORMATTING REQUIREMENTS:

The Committee relies on electronic submissions for printing the official hearing record. As always, submissions will be included in the record according to the discretion of the Committee. The Committee will not alter the content of your submission, but we reserve the right to format it according to our guidelines. Any submission provided to the Committee by a witness, any materials submitted for the printed record, and any written comments in response to a request for written comments must conform to the guidelines listed below. Any submission not in compliance with these guidelines will not be printed, but will be maintained in the Committee files for review and use by the Committee.

All submissions and supplementary materials must be submitted in a single document via email, provided in Word format and must not exceed a total of 10 pages. Witnesses and submitters are advised that the Committee relies on electronic submissions for printing the official hearing record.

All submissions must include a list of all clients, persons and/or organizations on whose behalf the witness appears. The name, company, address, telephone, and fax numbers of each witness must be included in the body of the email. Please exclude any personal identifiable information in the attached submission.

Failure to follow the formatting requirements may result in the exclusion of a submission. All submissions for the record are final.

The Committee seeks to make its facilities accessible to persons with disabilities. If you are in need of special accommodations, please call 202-225-1721 or 202-226-3411 TTD/TTY in advance of the event (four business days notice is requested). Questions with regard to special accommodation needs in general (including availability of Committee materials in alternative formats) may be directed to the Committee as noted above.

Note: All Committee advisories and news releases are available at http://www.waysandmeans.house.gov/

Chairman TIBERI. The subcommittee will come to order. Welcome to the Ways and Means Subcommittee on Health hearing on exploring the use of technology and innovation to create efficiencies, higher quality, and better access for beneficiaries in our healthcare system.

Over the last decade, Congress has passed several pieces of legislation that would expand the use of health information technology on a wide scale, helping to spur a wave of innovation and technological advancement. While these advancements have, in part, been utilized under meaningful use in the Electronic Health Record Incentives Program, there are a myriad of companies out there inventing and developing and groundbreaking products that we do not yet see in Federal healthcare programs, like Medicare. The commercial sector of health care is utilizing many of these innovations on a yearly basis to improve systems, medical facilities, beneficiary care, and collaborative care efforts. To date, Medicare has fallen significantly behind these efforts.

We are here today to kick off discussions about the innovative and technological aspects of health care and explore how we can use already available emerging technologies to increase efficiency, reduce waste, improve outcomes, and create greater access to care for beneficiaries in the Medicare space. What I hope we can talk about today is not about increasing or decreasing Medicare spending but about using the existing dollars already in the program more efficiently, focusing on goals, like giving patients more time with their physicians, clinicians, and more control over their health information.

I have heard from providers back in Ohio about clinician shortages that are jeopardizing access for Medicare beneficiaries who need the care. That scenario is both unacceptable and untenable. There are better ways to deliver care if we can lift barriers and incentivize greater efficiency among all providers. Partnering with those who share these goals, including those who are already developing innovative products to create these efficiencies, will be a positive step towards bolstering Medicare solvency.

It is important to recognize what steps have already been taken to bring these technologies into the Medicare space. We can learn lessons from the implementation of the HITECH Act. Additionally, we can build upon the Medicare Access and CHIP Reauthorization Act, or MACRA. Rather than create more bureaucratic layers, Congress should continue to remove some of the regulatory burdens and barriers constricting advanced partnerships between technology and health care.

During today's hearing, we will discuss the role of innovation in the healthcare industry, look at how providers are leveraging the power of technology to cut cost and improve care for all patients, and explore how Congress can apply these lessons in order to further break down barriers, rather than create them, to improve Medicare for beneficiaries and ensure that taxpayer dollars are being spent with these goals in mind.

I now yield to the distinguished ranking member, Dr. McDermott, for the purposes of an opening statement.

Mr. MCDERMOTT. Thank you, Mr. Chairman.

Thank you for calling this hearing. In my opinion, it could be one of the most important hearings we have held during my time as ranking member on the subcommittee.

Innovation will be central to our efforts to address rising healthcare costs. Currently, the United States spends 17.5 percent of our gross domestic product on health care, and it is still rising. And although the Affordable Care has helped slow that growth, we still have work to do.

Innovation through electronic health records, telemedicine and delivery system and payment reform must be part of our discussion. So I am interested in hearing from our witnesses about our progress in these areas.

I am also interested in hearing about the challenges we continue to face, because recent events suggest that turning an innovative idea into reality isn't always a straightforward process. We often point to Accountable Care Organizations as an example of an important tool in our effort to shift toward a value-based system. If successful, they are supposed to lead to better outcomes at a lower cost. Care will be coordinated. Unnecessary services will be reduced, and the patients will be healthier.

But recently, last week, the New York Times reported on the challenges facing Dartmouth, an innovator that has struggled to make their ACO model work in practice. Although Dartmouth was improving quality and reducing cost, it found that the ACO was unsustainable and had to withdraw from the program. This is just one data point. You can't draw straight lines with one data point, and it certainly doesn't mean ACOs are failures. What it does mean is there are questions we need to ask.

We are trying to figure out where we are going as a country and how we can turn our investments and innovation into sustainable models moving forward. The process involves collecting data, trying new ideas, and learning from our experiences. My hope is that we can work together to do this in a bipartisan way. It hasn't always been easy. I know the Center for Medicare and Medicare Innovation, for example, has become embroiled in partisan politics. That is a shame. The work that the Innovation Center is doing will help us become more efficient and achieve our shared goals of containing costs. I am hopeful we can work together to support these efforts in the future.

We have a great panel today, and I would like to hear our witnesses speak about the things they are doing to innovate and improve care. And I look forward to hearing from them about what works, what hasn't worked, and where they think we are heading, because I know we can all agree that without meaningful action on cost containment, we will continue down an unsustainable path in health care in this country. I look forward to a productive discussion this morning, and I hope we can work together to find solutions.

Thank you, Mr. Chairman.

Chairman TIBERI. Without objection, other members' opening statements will be made part of the record.

Today's witness panel includes four experts. I would first like to yield to the gentleman from Pennsylvania, who will introduce our first witness.

Mr. KELLY. Thank you, Chairman.

I want to thank Chairman Tiberi for his leadership in convening today's hearing to improve health IT and innovation in today's healthcare field and to generate greater efficiency for America's seniors and patients as well as saving U.S. taxpayers an awful lot of money and doing it in the right way.

A leader in this field is TeleTracking, a company based in western Pennsylvania. In fact, it is in Pittsburgh, Pennsylvania. TeleTracking's president Michael Gallup is testifying before us today to share TeleTracking's success in transforming companies from a patient flow automation company to a real-time automated operations management provider. TeleTracking's winning strategy has helped healthcare providers achieve broad operational efficiencies and cost savings. Mr. Gallup is leading TeleTracking's transformative healthcare policies. I look forward to his testimony today.

And on a personal note, Mr. Chairman, I would like to just briefly talk about a man named Victor Phillips, who died March 21, 1991. Mr. Phillips had open heart surgery, was in the hospital. And after the event, he had to be taken downstairs to another room for another event to take place or some type of a healthcare thing. I think it was dialysis. After they completed that, Mr. Phillips was on a gurney for almost 3 hours, because they forgot where he was. So he laid on this gurney for 3 or 4 hours. Finally, somebody came by and said: What is this patient doing here?

They said: We don't know. He had a procedure done.

They said: He needs to go upstairs. He just had open-heart surgery, and he has been disconnected from all his monitoring machines.

They got Mr. Phillips up to his room, but by that time, he had slipped into a coma. He lived for about a week. Now, this is a guy who was a World War II veteran. He survived the battlefield, but he did not survive his time in the hospital. And I can tell you that Mr. Phillips at that time was 77 years old. I knew him for about 10 years. And the way I met Mr. Phillips is he was the father of my wife. And I watched as he lay dying and thought, if somebody had known where he was, this never would have happened.

TeleTracking is a type of company that says: This isn't going to happen anymore. We are doing it more effectively, more efficiently. And I tell you what: There is not a day that goes by that I don't thank the private sector for coming in here and telling us how to solve problems. The solutions are there with you. You have done great work.

Chairman Tiberi, I mean this sincerely. Thank you so much for bringing this hearing up. And I really wish I could go back in time to see my father-in-law again, and I am sure I will see him again. But it was really—to sit and watch that man, after going through open-heart surgery and then get lost, not because he wasn't able to survive the surgery; he was lost somewhere in the whole system.

So, Mr. Gallup, thanks for being here, and thanks for all of you being here. You do great work, and we look forward to your testimony. Thank you.

Chairman TIBERI. Thank you, Mr. Kelly, for sharing that story.

I would now like to yield to the gentleman from Oregon for our next introduction. Mr. Blumenauer.

Mr. BLUMENAUER. Thank you, Mr. Chairman.

My introduction is not quite as dramatic as my friend from Butler, but it is no less heartfelt. Welcoming Jared Short. Cambia is headquartered in Portland, Oregon. It is a collection of companies. Jared at one point managed their seven—I can't keep track of all of them—seven health insurance plans for the four northwest States. But, most recently, he has been focusing on areas of innovation, technology. They have services and technology, and Jared, as the chief operating officer, has been focused on that.

I have been pleased to work with his company with people who are there who are committed to the same sort of collaboration that my friend from Butler referenced. It has helped me in my service, and I think we have been able to add some additional benefit for the legislative process. And I am looking forward to Jared's presentation today, and I think you will find it informative.

Thank you, Mr. Chairman.

Chairman TIBERI. Thank you, Mr. Blumenauer.

And, finally, I am going to recognize Mr. Kind from Wisconsin to introduce our third witness.

Mr. KIND. Thank you, Mr. Chairman.

Mr. Chairman, I especially want to welcome Dr. Long. He is the chief medical officer and vice president of systems at ThedaCare in Wisconsin. It is the third largest healthcare provider in the State of Wisconsin, I believe still the largest employer in the northeastern part of the State as well, and one of the leaders in Affordable Care Organizations, the coordination of care, one of the lowest cost, highest quality providers we have throughout the Nation. I have had, on occasion, the chance to stop by and visit Dr. Toussaint, the team there, and seeing the work up close, what they are doing. And they are really pioneering a lot of interesting, innovative programs, especially in the so-called super-utilizer category that I am sure Dr. Long will touch upon a little bit, hopefully, in his testimony. I know he did in his written testimony.

And it is one of the great challenges that we face, the fact that 20 percent of the population is consuming over 80 percent of the healthcare expenses, and how do we provide better coordination and quality of care at a better price for that high-risk population to begin with?

So, on behalf of our State, we are very proud of the work that ThedaCare does, and, Dr. Long, welcome to the committee today. Thanks for being here.

Thank you Mr. Chairman.

Chairman TIBERI. Thank you, Mr. Kind.

And, finally, I would like to recognize Paul Black, the chief executive officer of Allscripts. He will be third on our panel today. We welcome all four of you for this innovative hearing.

Mr. Gallup, you are going to go first. And it is great to see you again. We had a great visit at Ohio State, and my friends there are excited to work with you and have seen great results because of the work that you have done. So you are recognized for 5 minutes. Thanks for sharing your story with us today.

STATEMENT OF MICHAEL GALLUP, PRESIDENT, TELETRACKING TECHNOLOGIES (PITTSBURGH, PA)

Mr. GALLUP. Thank you, Chairman Tiberi, Ranking Member McDermott, and distinguished members of the Subcommittee on Health. This is my first time doing this and could be my last, depending on how it goes, since my boss is sitting behind me. So be nice.

It is our great honor to be here today and discuss how innovations to drive efficiency in health care can increase access for all, provide a better experience for caregivers at a lower cost. Each year, nearly 2 million patients walk in and walk back out of an emergency department because they are tired and frustrated from waiting. Millions more find themselves waiting more than 6 hours to get a hospital bed. Every minute of every day an ambulance is diverted from its intended hospital, yet there are seven open beds for every two admitted patients. And why? Because there has been very little innovation or attention given to the logistical flow of patients, caregivers, assets and materials.

We are here today with evidence to show that complete visibility and automation of logistics for everything in health care—beds, operating rooms, infusion chairs, patients, staff, equipment, et cetera—through a centralized command center can fundamentally change access to timely care for beneficiaries and decrease the frustration for doctors and nurses that they are suffering today.

Efficiency and automation is not about cutting back on vital resources or labor. It is, however, about eliminating the documented waste of nearly $1 trillion annually. There are vital minutes, hours, and even days wasted in the system because we lack the necessary transparency and automation that is so prevalent in other service industries. Forty-six minutes was just enough time to save the life of a new mother suffering cardiac arrest. That is the amount of time it took for her to be transported from a regional hospital's emergency department to an intensive care unit at Baptist Memorial Hospital in Memphis, Tennessee, following an emergency C-section. A physician made one call to the Baptist operational command center. This coordination center automatically set up transport and secured on-call specialists in the matter of minutes. Upon her transfer, the specialists saved her life. This is efficiency.

What if that new mother's ambulance was redirected to another facility 15 minutes away, an occurrence that is all too common? We see a Nation in which every health system is enabled by an operational command center connecting care for doctors' offices to clinics to hospitals and beyond, one that places real-time data in the hands of clinicians and administrators, one that sees everything—beds, patients, staff and equipment—one that serves as a care traffic-control center. Dr. Joseph Underwood III at New York Presbyterian credits his coordination and command center with reducing the amount of time patients spend in the emergency department and allowing his doctors to spend more time with new patients. This is efficiency.

Recently, a senior hospital executive called me and shared two stories, one about a patient in rural Texas who had suffered a stroke in need of immediate care at the right facility. With one call, transport was on its way, doctors and clinicians were alerted, prep-

arations were made in real time. And as a result, the patient returned to his family completely healed.

Even at 95 percent occupancy, this health system has been serving 2,000 more cases just like this every month without any added cost. The same executive went on to share, with this additional growth, his hospital system was able to serve thousands of community members without the means to pay for their care that they so desperately needed. This is efficiency.

Efficiency is more than digitizing medical records. While crucial to the information sharing, medical records are not built to facilitate the movement of patients through a system. We are not seeking a handout, but we are asking you to consider the possibility of a truly efficient care delivery system. Michael Zamagias, the majority shareholder of TeleTracking, has dedicated himself to it for 25 years—who, mind you, pays 100 percent of his employees' health care and has invested nearly a billion dollars into making healthcare command centers a reality.

Through efficiencies and increased productivity, these care traffic-control centers are self-funding. No additional taxation is needed. Through these types of efficiencies, we can serve millions more patients by utilizing our underutilized assets, helping coordinate care so our doctors and nurses don't suffer from the wasted time. Less frustrated doctors and nurses are happier people. And by the way, those clinicians want this. I recently asked a nurse with a new command center what it meant to her, and she simply said: It changed my life. I spend my time with my patients now. This is efficiency.

And one last story. TeleTracking was built on the premise that too much money created this problem and too little money will solve it. As an example, a chief executive officer called and thanked me for saving 308 jobs in his hospital as he eliminated costs from his system through the command center that allowed him to keep more clinicians and provide better care. This is efficiency.

Thank you, Chairman Tiberi, Ranking Member McDermott, and members of the subcommittee.

[The prepared statement of Mr. Gallup follows:]

Statement of TeleTracking Technologies, Inc. at the House Ways and Means Subcommittee on Health

Hearing on Exploring the Use of Technology and Innovation to Create Efficiencies, Higher Quality, and Better Access for Beneficiaries in Health Care

September 14, 2016

TeleTracking appreciates the opportunity to address the House Ways and Means Subcommittee on Health to discuss how to improve the quality and efficiency of our health care system while reducing costs, particularly with regard to the nation's hospitals. We commend the Subcommittee for your interest in this important issue. We especially want to thank Subcommittee Chairman Tiberi for visiting The Ohio State University Wexner Medical Center and observing firsthand how TeleTracking's patient flow solutions can help hospitals improve how they manage the patient health care experience.

TeleTracking's mission is to optimize health system operations by enhancing patient flow with solutions and services that enable the highest quality of care delivery and coordination. What does it mean to enhance patient flow? It means helping hospitals care for more patients without building more physical space or purchasing more beds. It means making sure that patients don't languish in emergency rooms – or leave the hospital without receiving care – because of long waits for beds. It means harnessing technology to make the most of the resources already within the health care system to improve quality of care, minimize waste, and decrease health system costs. And, it means unburdening care providers so that they can focus their attention on the patients who need them.

With TeleTracking's 25 years of experience in the industry, and hundreds of millions of patients helped, we have a unique perspective. Our experience has taught us that the most valuable assets in health care are the care providers and their ability to spend time with patients. We also see that **the health care system in the United States is in crisis. Hospitals are running inefficiently – patients seeking care are often turned away, care delivery is suboptimal, and benchmark costs far exceed other nations.**

This is not just about costs or financial performance. **"Forty-six minutes was just enough time to save the life of a new mother"[1] began a recent news story about how the process efficiencies gained at Baptist Memorial Health System are having lifesaving effects.** After an emergency cesarean section, a new mother suffered cardiac arrest and needed to be transferred from one facility's emergency department (ED) to an intensive care unit at Baptist's flagship hospital. **If Baptist had performed like an average US hospital,[2] this young mother would never have had the chance to meet her new baby.** Baptist's streamlined patient flow processes, service standards and technologies supported caregivers in their efforts to save this young mother's life, and undoubtedly the lives of countless others.

To this end, the Agency for Healthcare Research and Quality (AHRQ) targeted patient flow as a viable improvement strategy in 2011.[3] And, the Institute of Medicine (IOM) identified billions dollars of waste in the health system diverting resources away from patient care. A focus on health care operations is a theme within the IOM's recommendations on how to best address that waste and improve care quality.[4] Additionally, the Institute for Healthcare Improvement (IHI) calls for a solution that addresses three interconnected objectives which include improving the patient care experience while reducing the per capita cost of health care.[5]

It is apparent that an operational focus is needed to drive down costs, improve efficiency, and assure all patients receive timely access to care and sufficient time with caregivers.[6] This requires a set of initiatives that improves

the flow of patients within the system through research, innovation, and performance standards. Improved flow can help us care for more patients within our existing infrastructure.

The Problem of Waste in Health Care

Every year, 1.9 million people leave emergency departments (ED) without being treated after becoming frustrated with long waits. [7] Every minute of every day, an ambulance patient is diverted away from his hospital of choice because of insufficient capacity. [8] **In an average year, already-admitted hospital patients spend a total of 4.3 million days waiting to be moved into their inpatient beds and receive the care they need.**

The Centers for Medicare & Medicaid Services (CMS) has recognized the importance of ED wait times, putting measurement and reporting requirements in place as part of its Hospital Inpatient Quality Reporting Program in 2014.[9] While publication of wait time information is useful, patients needing critical emergency care typically don't have the luxury of being selective about where to go–particularly in medically underserved areas. Instead, hospitals need to know about the tools available to help them improve.

Every hour that a patient waits to receive the inpatient care he needs, he faces objectively worse health outcomes.[10] Based on a recent study, an estimated 1.2 million admitted patients annually face an 80% or greater increase in the risk of death because they spent 12 or more hours waiting for an appropriate inpatient bed.[11] Each year, 400,000 patients[12] spend three extra, avoidable days in the hospital because it took 24 hours or longer to find an appropriate inpatient bed after being admitted through the ED. A 2015 report produced by the IOM Committee on Optimizing Scheduling in Health Care, revealed how process inefficiencies in the Veterans Administration Health Care System led to reduced access to care and potentially avoidable deaths.[13] **Too often, patients are not able to access the care they need, when they need it, despite the fact that US hospitals run at an average occupancy rate of around 61%.**[14]

With over $3 trillion per year[15] spent on health care in the US,[16] our country is ranked first in the world based on per capita health care spending.[17] At the same time, Bloomberg ranks the US 44th out of 51 similar nations based on the performance of our health system.[18] **These statistics suggest that our health care system is inefficient and underperforming.** In fact, the IOM estimates that $750 billion of the money we spend on health care each year is wasted.[19]

Unfortunately, problems associated with accessing care could get worse. Over the next 10 years, we, as a country, should expect significant shortages in the number of practicing physicians and nurses.[20] At the same time, we should expect to see continued increases in the demand for care. Every day 10,000 Americans turn 65[21] becoming Medicare eligible—an age at which roughly 50% of lifetime health care expenditures begin to occur.[22] In fact, as we approach 2050, the Medicare population is expected to be twice as large as it was in 2010.[23] The growth of the Medicare population will put additional strain on the health care system. Additionally, we are seeing increased demand for health care from Americans newly insured under the Affordable Care Act.[24]

As demand continues to increase, our already inefficient system will be further taxed and patients will continue to suffer unless changes are made. Building new hospitals and improving clinical efficiencies only solve a portion of the problem; these actions cannot address all resource limitations and waste. **We need to explore what blend of process redesign, performance standards, and technology adoption will increase our capacity to move patients safely through their episodes of care.**

Current Progress Is Not Enough

As a nation, the changes we are making to public health program reimbursement, population health programs, health insurance product design, fraud and abuse prevention, and transparency are all important steps. Each of these elements must be part of a solution that addresses the areas where our health system is functioning poorly. However, it will take years to realize the benefits of many of these long-term initiatives, and they still only address a portion of the problem.

From an operations perspective, health care is still largely chaotic—it's disaggregated, highly variable, and poorly measured. Unlike nearly all other industries, health care has yet to fully implement modern process improvement methodologies, which focus on eliminating non-value-added elements in every process. Yet operational process improvement and enabling technologies promises to allow health care to achieve "an environment in which potential problems are anticipated, detected early, and virtually always responded to quickly enough to prevent catastrophic consequences."[25]

For health care, operational performance is closely tied to patient flow. Patient flow is the set of interconnected processes that move inpatients and outpatients through the health care system from admission to discharge and back out into their communities for follow-up care. **A breakdown of the $750 billion wasted per year shows that nearly half is associated with inefficiencies in the administrative processes[26] necessary to deliver patient care**[27] – the non-value-added waste that Lean methodologies are designed to eliminate. Without the tools needed to gather, track and report on data in real-time, health care organizations cannot make timely and informed adjustments to maintain safe operations in the face of increased demand.[28] **Due to process inefficiencies and lack of visibility, the health of patients is compromised because patients cannot access care when they need it.**

Although agencies like CMS are capturing statistics on certain patient flow measures, US hospitals are not being held accountable to specific performance standards. By including discharge planning and 30-day readmission rates in its Conditions for Participation, CMS is already having a positive impact on health care cost and quality.[29] **Additional focus on operational quality metrics can support the implementation of process improvement methodologies that will save lives and create a more sustainable health care system.**

The Role of End-to-End Patient Flow

A focus on improving end-to-end patient access and flow throughout the health care system will have a transformative impact on productivity, utilization and the timely delivery of quality care. In its landmark study on how the US can provide better care at a lower cost, the IOM identifies a focus on health care operations as a key opportunity to improve patient health and lower medical costs.[30] Additionally, government agencies like the AHRQ have already identified patient flow as an important focus for hospital leaders.[31] Enabling and sustaining technology in conjunction with Lean methodologies will improve patient flow processes and deliver better care.

Simply put, patient flow standards and process improvements save lives and allow more patients to get the care they need. End-to-end patient flow is the core operational process that providers need to optimize and manage as an integrated system. One academic study suggests that reducing the average boarding time in the ED from six hours to four hours across the US could create the capacity to help 9.7 million more patients per year in urban EDs with a potential of $12 billion in additional revenue[32] per year.[33] **At a time when 30% of all hospitals have**

negative operating margins,[34] these types of revenue gains are important to keep our system from collapsing. Not only will a focus on patient flow save more lives, it will allow the health system to continue to do so in the future.

The impact can extend to government programs like those run by CMS. When more than a third of all hospital stays involve a Medicare-eligible patient,[35] efficiency gains will have a significant impact on this population and Medicare expenses. For example, recent research suggests that Medicare patients experience 1.2 million avoidable inpatient days per year due to complications correlated with ED boarding times.[36] At an average expense per inpatient day of $5,687[37] across the US, **this amounts to $6.6 billion of potentially avoidable expenses impacting Medicare every year.**

The Impact of an End-to-End Patient Flow Focus

Technology innovators, like TeleTracking, are already focused on decreasing costs and increasing efficiency in health care environments. By providing solutions that enable best-in-class patient flow processes, TeleTracking helps hospitals care for more patients without building more physical space or buying more beds. An independent study of TeleTracking's solutions conducted by the RAND Corporation shows that its end-to-end patient flow platform can:

- **Decrease the average length of stay for inpatients by over 18%.[38]**
- **Create ED capacity for 12% more patient visits without any additional bed count or adversely affecting care quality.[39]**
- **Increase the number of monthly admissions per licensed bed by nearly 30%.**

Congressman Patrick Tiberi experienced the impact that TeleTracking's end-to-end patient flow solutions can have during his visit to The Ohio State University Wexner Medical Center. Through better management of inpatient admissions and discharges, the Wexner Medical Center ED experienced a **42% decrease in diversion hours** and a **38% decrease in patients who left without being seen.** Efficiency in moving patients out of the ED and into the rest of the hospital allowed the Wexner Medical Center to keep its ED open to new patients and see patients who would otherwise have gone home without treatment after a lengthy wait.

The results experienced at The Ohio State University Wexner Medical Center are not unique. In its first five years with TeleTracking, the Children's Hospital of Atlanta created capacity to make sure an additional **14,000 children received the care they desperately needed**. Rush University in Chicago was able to realize **an additional $40 million in margin per year that it could then reallocate and use to provide additional patient care**. Carillion Clinic in Roanoke, VA leveraged TeleTracking's end-to-end patient flow solution to **increase its patient volume by nearly 1,000 patients a year while running at 98% capacity**.

The Transformative Impact of Technology and Visibility

The health care system, with its patient arrivals and departures, needs to coordinate the complex work of multiple teams and draws many similarities to the aviation industry. The aviation industry has focused on process improvement, measurement, and the adoption of technologies to increase the efficiency and safety of its service. In the early days of flight, bonfires and physical lighthouse beacons were used to guide pilots to landing strips. The introduction of ground to air radio communication, radar tracking systems, the development of centralized traffic

control hubs, and powerful computational algorithms now help to manage flight paths and collision risks have made air travel nearly 100% safer since 1966 alone, in spite of a 96% increase in the numbers of passengers in the sky.[40]

Imagine what air travel might be like today if the industry suddenly stopped using radar and reverted to using decentralized, airline specific ground to air communication and bonfires as their only wayfinding tools. The health care system is essentially doing just that: using phone calls and paper based processes to find beds for admitted patients or move patients to and from procedural areas. Indeed, as Mark Chassin, M.D., FACP, M.P.P., M.P.H. of the Joint Commission points out, **"hospital care is almost 3,000 times less safe than air travel."**[41] Without patient flow technology, our health care workers are faced with unpredictable environments where it is difficult to complete simple tasks like identifying the best bed for a given patient. Breakdowns in communication and lack of visibility cost billions of dollars a year and prevent people from getting the care they need.[42]

Only half of all hospitals in the US have some form of patient flow technology in place.[43] TeleTracking estimates that fewer than half of all hospitals have centralized "air traffic control" departments with the ability to manage patient arrivals and bed assignments. Even fewer hospitals have the technology to ensure the right assets, e.g. IV stands, which patients need every day, are automatically delivered to patient rooms at the time of admission. Electronic Medical Records (EMRs) cannot address the problem of operational waste. **In fact, we see that the cost of labor in health care is increasing seven times faster than its productivity rate**[44] **even though over 90% of hospitals have adopted an EMR system.**[45]

Conclusion

The goal of process improvement is not to build more EDs or hospital beds. **The goal is to care for more patients with existing infrastructure and resources.** We believe that investing in patient flow technology and setting standards for health care operations will provide an immediate impact on the health care system. Every patient should be able to move from admission to discharge and back out into their communities by receiving the most efficient and effective care. With that goal in mind, the benefits of better patient flow can support the cost of our other, necessary structural changes. This solution will help hospitals provide better care to more patients by:

- Getting patients admitted to the right hospital and the right bed for them, the first time;
- Allowing clinicians to spend more time on patient care by standardizing and automating routine communications;
- Increasing the utilization of scarce resources like hospital beds by better managing the infection prevention workflow and making them ready for the next, waiting patient;
- Monitoring and managing discharge processes to get healthy patients home more quickly;
- Predicting demand to better match staff and resource needs to future patient admissions.

TeleTracking has consistently done this through the implementation of our end-to-end patient flow platform for the last 25 years. **This visibility has enabled many health systems to manage their patient flow processes and reduce waste and inefficiency.** There are many ways these process improvements can be used to strengthen additional health systems throughout the country, particularly in medically-underserved areas where efficient use of resources is especially critical. We would be honored to serve as a resource for the Subcommittee in expanding the reach of these improvements. We also offer a few concrete ways that the Subcommittee can promote process improvement in our health care system:

1. In order to improve efficiency and patient outcomes, we recommend a careful evaluation of potential gaps in the quality metrics on which hospitals are measured. Additional emphasis on operational metrics around ED boarding/wait times and inpatient discharge aligned with incentive programs could support current quality initiatives while improving access to care.
2. Encourage AHRQ to provide funding and support for research projects focused on developing comprehensive knowledge about best practices in end-to-end patient flow. The organization should help hospitals understand how end-to-end patient flow platform technologies and process redesign can promote hospital efficiency, expand patient access, and improve patient outcomes, particularly in rural and urban health systems and/or VA Veterans Integrated Service Networks.
3. The Subcommittee could also encourage the CMS Innovation Center to launch an initiative to speed the adoption of best practices in patient flow. This would dovetail with the work currently being done by CMS' Strategic Innovation Engine around identifying innovative practices related to streamlining patient flow and care coordination. Such a patient flow initiative would: (1) support new service delivery models and better care transitions and service delivery; (2) reduce provider overhead costs associated with bundled payment arrangements and other innovative payment / delivery models; and (3) test how to maximize the impact that patient flow technology can have on the future of health care.

As a country, we can improve our health care system through better patient flow. TeleTracking can provide information on over 80 health systems where our technology is providing great value and consistent patient flow outcomes. The technology is already deployed across more than 800 hospitals and nearly 40% of the hospital beds in the United States. With the Subcommittee's attention to an operational, patient flow focus in health care, **we can revolutionize American health care – not through building hospitals and buying beds, but by serving more patients more effectively with the resources we already have.**

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Chairman TIBERI. Thank you, Mr. Gallup.
Mr. Short, you are recognized for 5 minutes.

STATEMENT OF JARED SHORT, CHIEF OPERATING OFFICER, CAMBIA HEALTH SOLUTIONS (PORTLAND, OR)

Mr. SHORT. Chairman Tiberi, Ranking Member McDermott, and members of the subcommittee, my name is Jared Short, and I am the chief operating officer for Cambia Health Solutions in Portland, Oregon. Cambia is a not-for-profit health solutions company that is committed to creating personalized experiences for people and improving the healthcare system. We are best known for creating the employer coverage insurance market a hundred years ago, but our footprint has grown. We are a family today of 20 companies, serving 80 million people, integrating technology to make health care simpler and more personalized. Cambia is making care simple for people by creating a consumer experience platform powered by technology. We are putting people at the center of everything and connecting the dots in health care that have not been connected before.

With our tools, people can search for treatments. They can find out how much they cost. They can schedule appointments. Lastly, they can have drugs and medical devices delivered to their homes. And if they need help, we can help them with a human being. In my written testimony, we give examples of our health solutions and list our entire set of direct health solutions companies.

For now, let me give you an example of one of our solutions, HealthSparq, a transparency tool that allows people to shop for healthcare services. It is a first-of-its-kind platform, launched in 2005, that shows individuals the price and quality of healthcare services, allowing them to comparison shop and make appointments. Think of it like an Amazon or Expedia experience, but for health care. HealthSparq is a simple one-stop-shopping experience.

We have another solution called MedSavvy that helps people understand whether a prescription medication will work for them. MedSavvy provides information about the effectiveness and cost of prescription medications at a personalized level. It assigns each drug a letter grade, like a report card we would receive in school, so people can more easily compare one drug to another. Both patients and prescribing doctors can access the MedSavvy data that is used to determine the grades and post ratings and reviews about their own medication experiences.

Another Cambia investment company, GNS Healthcare, is a company that collects patient data, analyzes it, and determines which treatments are the best match for individuals. GNS also has the capability to predict which patients are most likely to stop taking their medications. This process helps people have more success with their care plans and helps organizations lower cost related to medication adherence, diabetes, oncology and more.

At Cambia, we understand that health care is complex and it is personal, which is why we are focused on putting the consumer at the center of everything we do. Cambia's platform is all about making it easier for consumers to learn, decide, and pay for health care, without intruding on the important relationship with trusted doctors.

Elderly patients are frequent users of healthcare services. Today, there is an opportunity to expand these tools and capabilities into our senior population. We can help them save money, help the system save money, and it gives our seniors the health care they hope for and, quite frankly, they deserve.

The Medicare program, by the way, can modernize its systems just like the private sector is doing. Beneficiaries can access the same capabilities that will allow them to live healthier and better lives.

Cambia looks forward to helping the members of this committee transition Medicare into the next generation of data analytics, healthcare coordination, and patient engagement. Seniors are just as eager for timely, consumer-friendly access to care. They do not want to go in and out of hospitals when they do not need to, and our system can no longer afford this level of inefficiency.

Cambia is interested in partnering in a broader discussion about how to apply our innovations to the Medicare program to our seniors so they can have access to modern, high-quality experience.

Thank you for the opportunity to speak with you today. Cambia Health Solutions will be pleased to share additional information about our platform. Healthcare innovation is a work in progress, and we stand ready to assist the subcommittee as it continues its exploration of how technology can improve health care and the experience for Americans and their families. Thank you.

[The prepared statement of Mr. Short follows:]

Cambia Health Solutions Testimony

U.S. House of Representatives Ways and Means Subcommittee on Health
Hearing on Exploring the Use of Technology and Innovation to Create Efficiencies and Higher Quality in Health Care
September 14, 2016

Chairman Brady, Subcommittee Chairman Tiberi, Ranking Member McDermott, and Members of the Subcommittee:

My name is Jared Short and I am the Chief Operating Officer of Cambia Health Solutions headquartered in Portland, Oregon.

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Cambia is a nonprofit health solutions company that is committed to creating personalized experiences for people and improving the health care system. We are best known for creating employer-based health insurance 100 years ago, but today our footprint has grown. We are a family of 20 companies serving 80 million people, integrating technology to make health care simpler and more personalized.

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As members of this Committee know well, health care in America is undergoing rapid change. Now more than ever, people have the ability to take a more active role in managing their own health. To respond to this demand, the marketplace is introducing hundreds of new consumer products and services.

And while the scope of these emerging technologies is breathtaking, people do not want to be overwhelmed with shiny new products – they just want health care to be simpler.

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Cambia is making health care simple for people by creating a human services platform, powered by technology. We are putting people at the center of everything and connecting the dots in health care that have not been connected before. With our tools, people can search for the treatment they need, find out how much it will cost them, schedule an appointment, and have drugs or a medical device delivered to their home – all in one place. If they need help, we have a human being waiting to talk to them.

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CAMBIA
HEALTH SOLUTIONS

Let me give you an example of one of our health solutions; a transparency tool that allows people to shop for health care services called HealthSparq. It is a first-of-its-kind platform that shows individuals the price and quality of health care services, allowing customers to purchase while they shop. People will particularly appreciate the fact that their health insurance information is already loaded into the system, so they will know instantly what their out-of-pocket costs will be. Cambia was a pioneer in the transparency space, developing this program in 2005. You may think of it as an Amazon or Expedia-like experience, but for health care. Today, the HealthSparq tool serves 74 million insured people across 71 health plans access to the vital information they need to compare procedures and providers. HealthSparq reduces multiple frustrating searches into a simple, one-stop shopping experience.

We have another solution called **MedSavvy** that helps people talk to their doctors about their prescription drugs. It is an online tool that provides information about the effectiveness and cost of prescription medications. MedSavvy assigns letter grades – like a report card in school. A drug would be assigned an "A" or a "B" or a "C" or worse -- so people can more easily compare one drug to another. Patients and their prescribing doctors can access the evidenced-based data analyzed by our team of specially-trained pharmacists that is used to determine the grades. People can also post ratings and reviews about their own medication experiences. MedSavvy offers a new and simple way for patients to understand what their medications can do, and gives them the ability to discuss them intelligently with their doctor.

Another example of how we are simplifying healthcare is **Caremerge**, a company we invest in that created a web-based "dashboard" that allows everyone involved in a patient's care to see what is going on. The goal is to improve communication and care coordination among seniors, their families, health care providers and insurers. With Caremerge, everyone has access to the right information when they need it most. In addition to helping improve overall wellness and satisfaction, Caremerge helps lower costs by reducing the amount of time and paperwork it takes to capture and share information. Caremerge also provides an instant and easy solution to meeting the new requirements for accurate reimbursements. Caremerge is a simple way for patients, families and providers to share information.

GNS Healthcare is another company we invested in that uses big data analytics to help people remember to take their medication, and more precisely match treatments to individuals – which improves health outcomes. GNS does this with a machine learning and simulation platform, called REFS (Reverse Engineering and Forward Simulation), that collects patient data, including information from electronic medical records, connected health devices, medical and pharmacy claims, genomics, and consumer behavior. The company uses this data to identify which health interventions and drugs would be best suited for individual patients. This process helps healthcare organizations improve outcomes and lower costs related to preterm birth, medication adherence,

metabolic syndrome, comparative effectiveness in diabetes, specialty care, oncology and more.

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We understand that health care is complex and deeply personal, which is why we're focused on putting the consumer at the center of everything we do. Cambia's platform is all about making it easier for consumers to learn, decide, and pay for healthcare without intruding on the important relationships with trusted providers.

Our tools will be a great fit for the senior population. Elderly patients are frequently utilizing the system and we can help them manage their health care. Our tools and customer service will help them get the right amount of care when they need it, saving them money, the system money and giving our seniors the health care experience that they are hoping for and deserve.

The Medicare Program can modernize its systems just like the private sector is doing -- beneficiaries can similarly access these tools that will allow them to live healthier and better. Cambia looks forward to helping members of this Committee transition Medicare into the next-generation of data analytics, health care coordination and patient engagement. Seniors are just as eager for timely, consumer-friendly access to comparisons of clinical quality and price. They do not want to go in and out of the hospital if they do not need to, and our system can no longer afford this level of inefficiency. Cambia is interested in participating in a broader discussion about how to apply our innovations to the Medicare Program so our seniors may also have access to a modern, high-quality experience.

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The following is a complete list of the many innovations Cambia owns or is investing in that are powering or informing our efforts to provide a seamless, personalized health care experience for people and their families:

Caremerge is a communication and care coordination platform that helps forge meaningful connections among senior care providers, payers, families and seniors seeking to improve communication and outcomes in today's complex health care environment.

Carena provides a white label telehealth platform that allows health systems to extend their services with cost-effective virtual clinics, where consumers can receive care 24/7 from brands they know and trust. Carena's solutions get systems to market quickly with high-quality care.

CoPatient is an easy-to-use service that protects consumers against medical billing errors and overcharges, enabling people to manage and minimize their health care expenses.

GNS Healthcare uses big data analytics and readily available real-world data to create products, like MAX™ for Medication Adherence, that more precisely match health interventions to individuals, maximizing ROI and improving outcomes.

HealthSparq helps people make smarter health care choices through personalized transparency solutions that empower them to shop, compare and save on health care.

hubbub is a comprehensive well-being solution that seamlessly uses technology, biometric screenings, activity trackers, health coaching, targeted incentives and game mechanics to inspire positive behavior change, one healthy habit at a time.

lifeIMAGE is the nation's most utilized network for sharing medical imaging information. Its services allow hospitals, physicians and patients to securely connect and virtually exchange imaging data and history—regardless of format—leading to faster, better quality care delivered at a lower cost.

LifeMap Assurance Company is an ancillary benefits company offering products and services that provide financial protection and peace of mind to allow customers and their families to live life to its fullest.

Maxwell Health partners with brokers to provide employers with its revolutionary online benefits platform and app—it's a centralized place to access health and benefits services, engage employees and incentivize a holistic view of health.

MDsave is the world's first online health care marketplace, bringing together patients seeking affordable care with providers offering high-quality services at fair prices. MDsave simplifies the billing process through negotiated rates, bundled pricing, and up-front payment.

MedSavvy is a solution to the prescription drug shopping experience. It gives patients and providers easy access to medication treatment options, effectiveness results, prices and personal experience from others. Our specially trained pharmacy team assigns each drug a report-card style grade making it easy to compare treatment options.

mPulse Mobile offers proven mobile engagement solutions to health plans, pharma and providers that drive better health outcomes and improve administrative efficiencies.

PokitDok is a cloud-based API (application programming interface) platform that powers health care transactions and interoperability to improve the business of health.

Retrofit offers a science-based, tech-enabled approach to weight loss delivered with the human touch of multi-disciplinary certified wellness experts. The program improves lives by closing the gap between what people know and the actions they take toward weight loss.

True Link offers a suite of configurable financial tools to preserve seniors' financial independence and protect them and their families from scams, fraud and impairment-driven spending.

TytoCare enables consumers to perform a variety of medical examinations at home, guided by a hand-held device that sends information to a clinician for an advanced remote visit and diagnosis. The HIPAA-compliant cloud platform allows secure data and analytics sharing between patients, providers and health organizations.

UpFront Healthcare Services delivers technology-enabled pre-visit services that optimize the ambulatory experience—preparing and supporting patients while streamlining administrative and clinical operations for providers.

Wildflower Health delivers smartphone-based programs for maternity and newborn care—including its flagship program Due Date Plus—that integrate with payer benefits and programs to drive behaviors for safer, healthier and lower-cost pregnancies.

Thank you for the opportunity to speak with you today. Cambia Health Solutions would be pleased to share additional information about our platform. Health care innovation is a work in progress and we stand ready to assist the subcommittee as it continues its exploration of how technology can improve the health care experience for Americans and their families.

Chairman TIBERI. Thank you, Mr. Short.

Mr. Black, you are recognized for 5 minutes. Thank you for being here.

STATEMENT OF PAUL BLACK, CHIEF EXECUTIVE OFFICER, ALLSCRIPTS (CHICAGO, IL)

Mr. BLACK. Chairman Tiberi, Ranking Member McDermott, distinguished members of the committee, thank you for the opportunity to share my perspective on the innovations taking place in health care. It is a privilege to be here discussing how technology is changing the way we care for people, improving access, efficiency, and quality while reducing cost.

My name is Paul Black. I am the CEO of Allscripts. Allscripts is one of the largest developers of health information technology. We develop electronic health records, precision medicine solutions, and information exchange platforms. Nearly 180,000 physicians, 2,700 hospitals utilize Allscripts' solutions daily. We employ 7,000 people, with offices in 16 States, including Illinois, North Carolina, Vermont, Georgia, and Massachusetts. Allscripts' employees live in all 50 States. We are also majority owner of Netsmart, the leading healthcare IT company serving the behavioral health and mental health and home-health industries.

Despite some bumps in the road, as can be expected when times have changed, there has been a substantial progress in our industry that would never have happened had Congress not provided the impetus for ubiquitous adoption of electronic health records. These changes have disrupted paper systems that stood for decades, and the result is a new digital ecosystem of caregivers, software developers, and patients, allowing all to take a fresh look at how processes can be enhanced via automation. Fortunately, following disruption, there is innovation and opportunity.

In response, we have engineered solutions that sit on top of this new digital platform. We are leading the way in helping providers maximize the extensive data stores that have been created within their electronic health records. Our clients use these tools to harmonize volumes of data from the individuals' genomic story all the way up to the community's population health view. Allow me to give a few examples.

Allscripts' dbMotion interoperability platform, an information-exchange and patient-matching engine, brings together clinical content from across the community into a single patient view. We create access to this data from both within Allscripts and other electronic health records, all in the clinician's natural workflow. We connect over 350 different data sources, including electronic health records, developed by virtually all vendors, public health departments, and third-party claims systems. In fact, at the University of Pittsburgh Medical Center, the wait time for patient data decreased from as long as 20 hours down to 5 seconds, and the time physicians spent searching for information dropped from up to 40 minutes down to 1.

Importantly, when a physician clicks the community view of their patient at UPMC, they make a different clinical decision 60 percent of the time. At Baylor Scott and White Health in Dallas, a 12-year-old girl was spared a second CAT scan when images from

her initial ER visit were available later at another hospital inside of a different electronic health record. The ability to pull up these images prevented unnecessary radiation and saved her family more than $3,000. We recognize that tomorrow's healthcare networks aren't being built by our company alone. Since 2007, before ONC regulatory requirements, Allscripts launched an open approach to our electronic health applications, allowing third parties to integrate with our solutions. This has grown to a network of over 4,000 certified developers and providers using apps that will exchange information over 1 billion times this year alone.

Program highlights include an app that helps connect diabetic patient data directly into their doctor's electronic health record, an app that helps patients quickly and accurately provide updates before a practice visit, an app that helps providers connect patients to relevant clinical trials while still onsite in their office, and an app that rapidly fills available appointments following a cancellation, avoiding lost practice revenue and creating accelerated access to care.

Beyond our own innovations, our clients have also capitalized on this open platform, building solutions to deliver results to their patients. As I described in detail in my written testimony, clients from Phoenix Children's, University Hospitals of Cleveland, and Orlando Health have all built tools on top of our electronic health records to almost eliminate errors in medication dosing and administration, noticeably decrease rates of sepsis, and dramatically reduce readmissions, all of which drove material cost savings and improved outcomes.

Allscripts was also the first in the industry to make significant investment in the area of precision medicine, aligning Congress' interest in this opportunity. We recently launched our 2bPrecise solution, which will help caregivers proactively identify optimal patients for genomic sequencing and make the results available, understandable and actionable at the point of care. The NIH will be an early adopter of the 2bPrecise solution.

We are early supporters of the Cancer Moonshot and among the first participants in the White House's Sync for Science effort, working with clients to contribute data to the NIH cohort of 1 million lives.

There have been many more recent examples of innovation improvements, both for providers and patients. We would be happy to speak with any of you about our specific work in your district. Thank you for the opportunity to be here today.

[The prepared statement of Mr. Black follows:]

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Testimony of Paul Black,

Chief Executive Officer, Allscripts Healthcare Solutions, Inc.

Before the House of Representatives Ways and Means Subcommittee on Health

Exploring the Use of Technology and Innovation to Create Efficiencies and Higher Quality in Health Care

September 14, 2016

Chairman Tiberi, Ranking Member McDermott, distinguished Members of the Committee, thank you for the opportunity to share my perspectives on the exciting developments taking place across the health care industry, reflecting the tremendous innovation being led by the private sector today. It is a privilege to be here to discuss how innovations in technology are truly changing the way we care for people in a way that both improves care and reduces costs.

My name is Paul Black, and I serve as the Chief Executive Officer of Allscripts. Allscripts is one of the largest developers of health information technology for this country's healthcare providers. We develop and deliver Electronic Health Records technologies, revenue cycle management software, population health solutions, the leading interoperability information exchange platform, patient engagement tools and precision medicine solutions. Almost 180,000 physicians, including those delivering care in 45,000 ambulatory practices and 2,700 hospitals, utilize Allscripts technologies and services to connect their clinical and business operations. We employ 7,000 team members and have offices in 16 different states, including Illinois, North Carolina, Vermont, Georgia, and Massachusetts. Allscripts employees work in all 50 states.

We are also the majority owner of Netsmart, the leading healthcare IT company serving primarily the behavioral health space. Netsmart's solutions meet the needs of 23,000 health and human services client organizations in the long-term care, home health, hospice and behavioral health environments, including serving more than 450,000 care providers and 40 state systems.

I was invited here today to speak about the innovation that is taking place in health care, and particularly the strides that are being made to increase efficiencies within the delivery system,

progress with connecting clinicians and patients to critical data, and generally opening up our technologies to collaboration with other interested developers through our OPEN API initiative.

Over the past several years, our country has made a meaningful investment in the advancement of health information technology to finish the digitization of the U.S. healthcare system, and did so with a mission of achieving one very important goal: ensuring that our citizens are receiving the best possible care – both from a quality and cost perspective. There should be little doubt that this investment is paying dividends in the form of better care for our fellow citizens. This modernization of our healthcare system is also facilitating the payment and delivery reforms in Medicare as envisioned by the bipartisan MACRA legislation in ways that simply were not possible in a paper-based world.

It is true that in recent years the healthcare industry has experienced the expected headaches that occur with the introduction of change agents. Despite some bumps in the road, there have been huge leaps forward that never would have happened had Congress not stepped in and provided the impetus for tens of thousands of healthcare organizations across the country to begin using technologies in truly meaningful ways. Given the tremendous progress in standards development made by the private sector in recent years, as well as the additional motivation for our clients to continue this impressive momentum thanks to the passage of the Medicare Access and CHIP Reauthorization Act, we believe that there is still very real upside ahead. . This is a great start, even where more work will need to be done to move as many clinicians as possible to advanced payment models, and we applaud your support for this continued progress.

While Allscripts has been developing software for the health care environment for more than thirty years, our company has been working even more closely with professionals across the spectrum of care during the recent years in which health care advancement and health IT have evolved at a tremendously rapid rate. These changes have disrupted systems that stood for decades, and they have forced the entire ecosystem of caregivers, software developers and patients alike to take a fresh look at how processes can be enhanced via automation.

Fortunately, there is always one thing that follows disruption, and that is innovation. We are focused on supporting our clients as they transition to the Quality Payment Program world, having already completed 2015 certification for several of our products. Now that we have collectively achieved close to full adoption of Electronic Health Records, creating a new digital platform in most corners of

health care, there is now a tremendous opportunity for us to dive head first into what comes next. In fact, we are excited by many of the developments that Allscripts has rolled out to the market – solutions that allow our clients not only to capture and act on patient data at the point of care, but also to shift their care environment to one that realizes the tremendous power of data from the individual's unique genomic story all the way up to the community's population health view.

Allow me to provide a few examples:

Allscripts' dbMotion™ interoperability platform provides an advanced information exchange and patient matching engine that brings together clinical content from across a connected community into a single view, accessible within both Allscripts and non-Allscripts EHRs, to enable caregivers to find relevant information quickly while with the patient. This technology is in use across numerous communities inside and outside the U.S., including more than 60 regions of the U.S., Canada's Manitoba province and the entire country of Israel. Through dbMotion, our clients are able to connect to more than 350 different data sources, including EHRs developed by virtually every other vendor, patient portal technologies, state public health departments and other health information exchange organizations. Most importantly, use of our dbMotion solution is positively changing the care decisions being made every day by healthcare professionals and helping them work more efficiently, pushing the insights that are generated by data analysis and exchange directly into the caregivers' workflow in their native EHRs.

In fact, at the University of Pittsburgh Medical Center community serving Pennsylvania and Ohio, the wait time for patient information decreased from up to 20 hours down to as fast as five seconds; the time spent by physicians digging for that clinical information dropped from up to 40 minutes down to 1; and the percent of patients not ready for the OR when the facility was ready decreased from 30% to 15%. In another example at Baylor Scott and White Health, in northern Texas, a 12-year old girl was spared a second CAT scan when the record of her soccer-related concussion diagnosis and previous images from the ER were available to a second Emergency Room physician who saw her a week later at a different hospital. The ability to pull up this image with only a few clicks directly aided the diagnostic and treatment process, preventing unnecessary radiation exposure and saving her family almost $3,000 in unnecessary costs.

We recognize that tomorrow's healthcare networks aren't being built by our company alone, or even by health information technology developers alone. Because of a collaborative approach we

pioneered several years ago, we are seeing remarkable innovations coming from the broad technology marketplace. Specifically, since 2007, well before ONC regulations required it, Allscripts launched an "OPEN" approach to our EHR infrastructure and connectivity – the Allscripts Developer Program (ADP) - that allows third parties outside of our company to integrate with and develop enhanced functionality for Allscripts EHR software. Today, the ADP has become a real innovation engine, with a network of almost 4,000 certified developers bringing solutions to market every month. The healthcare professionals using the resulting products will push and pull information using these application programming interfaces almost one billion times this year alone.

Some of the highlights that have emerged from the Allscripts Developer Program include an app that helps diabetic patients stay more closely connected to their primary care physician, embedding their patient-reported data directly into the EHR; an app that helps patients more quickly and accurately provide medical history and payment information before a practice visit; one that helps providers connect patients to relevant clinical trials while the patient is still in the exam room; and a texting mechanism to rapidly fill available appointments following a cancellation, helping both the physician practice and the patients.

As described, many of the apps written by our developer partners are focused on increasing efficiency within the health system as it exists now. There are voices out in the market advocating for more hospitals to be built or saying that existing technology needs to be removed in order for information to flow, but we believe that greater efficacy can be achieved by maximizing what is in place and working smarter. Allscripts technologies and those of some of our development partners allow us to work closely with hospitals and ambulatory practices across the country and around the world to ensure that patients are treated promptly thanks to clinician access to accurate data, are released to a home or post-acute environment as quickly as is clinically appropriate as patients flow more efficiently through the process, and that information follows the patient regardless of the technology in place wherever they are seen. We have a responsibility to do the most with what we have and as cost-effectively as possible.

Allscripts has also made a significant investment in the area of precision medicine. We are very pleased that Congress and the Administration are focusing bipartisan attention in this area. In fact, we recently launched our 2bPrecise solution, which will help caregivers identify patients who are the best candidates for genomic sequencing and make the results of that sequencing available, understandable and actionable at the point of care. This will ultimately be possible not only within

the Allscripts suite of EHRs but also in an EHR-agnostic manner, allowing organizations to implement this industry-leading offering while still continuing to use their current system.

We're working closely with experts from the NIH in the field of genomic medicine. NIH will be an early adopter of our 2bPrecise solution, spanning the National Human Genome Research Institute, the National Cancer Institute and the NIH Clinical Center. We were also among the first participants in the White House's Sync 4 Science effort, part of the Cancer Moonshot effort, with plans to work with clients to contribute volumes of data to the cohort of one million lives being built at the NIH. We deeply believe that precision medicine will be a key part of the solution to improving care in the Medicare program, and across the healthcare ecosystem, and encourage Congress to continue its bipartisan work in this important area.

Beyond all of the great thinking that is happening within our company, many of our clients have also taken our solutions and built on them in ways that are delivering great value to their patients. Following are just a few examples of clinical improvement, greater efficiencies and lower costs that our clients have shared with us as they work to put all this new data to work:

- Dosing and Administration errors affect upwards of 3 million inpatients annually in the U.S., which in turn needlessly added billions of dollars in costs to the healthcare system and an average of between 8-12 days to a patient's length of stay. Since a new medication dose range checking algorithm was implemented four years ago at Phoenix Children's Hospital within the Allscripts Sunrise Clinical Manager EHR, providers have seen a significant reduction in prescribing errors with only 3% of all medication orders now leading to a Dosing Error alerts. Further, because the alerts now only fire at very relevant junctures, Phoenix Children's has also found that providers are far more compliant with following recommendations in the course of care.

- The Agency for Healthcare Research and Quality (AHRQ) reported that sepsis care cost the country more than $20 billion in 2011, with the costs rising on average by 11.9% annually. Orlando Health created an early sepsis detection workflow on top of an Allscripts solution that led to a 14% reduction in overall sepsis mortality rate, as well as an 8% reduction in the average length of stay (LOS) for sepsis.

- Readmissions to inpatient facilities continues to be a big strain on healthcare systems, reflecting gaps in care and challenges with continuity of care. While it is not always easy to

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control socio-economic factors that contribute to the issue, it is possible to manage patients' known risks by proactively influencing transitions of care. L.A.C.E. is a tool that helps calculate a readmission probability based on Length of Stay, Acute Admissions in the past, Comorbidities and ER visits. Our client, the University Hospitals of Cleveland Medical Center, used each patient's L.A.C.E. score in conjunction with our solutions to institute a program that ensures high-risk patients receive support for post-acute care (including home visits) and closer coordination with each patient's primary care providers. The net result of this program in its first year alone was a 50% reduction in all-cause readmissions for that population group.

There are many more examples I could share of innovation and the improvements that both healthcare professionals and patients have experienced in recent years – it is a tremendously exciting time to work in our industry. We would be happy to discuss more cases and speak with any of you about our work in and around your districts.

Thank you again for the opportunity to be here today.

Chairman TIBERI. Thank you, Mr. Black.

Dr. Long, you are recognized for 5 minutes.

STATEMENT OF GREG LONG, M.D., CHIEF MEDICAL OFFICER, SENIOR VICE PRESIDENT, SYSTEMS OF CARE, THEDACARE (APPLETON, WI)

Dr. LONG. Thank you. Chairman Tiberi, Ranking Member McDermott, and distinguished members of the subcommittee, my name is Greg Long. I am a family physician, and I serve as the chief medical officer and senior vice president for ThedaCare. Thank you for this invitation to appear today and discuss how technology and innovation can be leveraged to improve access to care and deliver better care at a lower cost. It is an honor to appear before you today alongside this distinguished panel.

As Mr. Kind had mentioned, ThedaCare is a not-for-profit, community-owned health system in northeastern Wisconsin, consisting of 7 hospitals, 34 health clinics, serving 8 counties. We are the third largest health system in the State, and we serve over 240,000 patients. Over a third of those are Medicare beneficiaries.

ThedaCare has for many years dedicated itself to advancing information technology to improve the way our professionals treat and engage with patients, expand access, and provide better, more coordinated care. In recognition of these efforts, ThedaCare has earned the Most Wired award for 15 straight years.

ThedaCare is also committed to delivering high-value care, and to us this means delivering the highest quality in a highly efficient manner, thereby lowering costs for patients and the overall health system at large. We are early adopters in healthcare quality improvement, having adopted lean methodologies in our care since 2003. And we have developed an embedded culture of continuous improvement with our team members. Additionally, our CMMI pioneer ACO excelled as the highest quality, lowest cost provider organization in the Nation for each of the 3 years that we participated. And we are now excited to participate in the Next Generation and Pioneer ACO.

ThedaCare is a member of the Healthcare Quality Coalition, a national group of leading health systems, hospital associations and medical societies that are striving to transition healthcare delivery to a value-based system.

With that background, let me first talk about how we are managing our complex patient care panel. In our service areas, as in many parts of the Nation, a growing percentage of the population is challenged by obesity, alcohol abuse, diabetes, high blood pressure, asthma, and lack of access to primary care. To meet these challenges, ThedaCare embarked on a pilot in 2014 to identify our most highly complex, sickest patients in our internal medicine population in Appleton. We screened, with a database tool that we developed through our Epic EMR, a risk stratification module that has looked at 7,000 patients and from it identified 600 of the most complex.

After we identified those patients, we enrolled almost 300 patients in our team-based care model and identified a team, which consisted of three care coordinators, one registered nurse, one clinical pharmacist, one behavioral health clinician, one nurse practi-

tioner, and one medical assistant, plus three part-time staff in the same disciplines. And this was a decentralized model where we put these practitioners right at the bedside in those clinics with the patient. As a first step in the model, each patient met with the care team, completed an initial assessment of medical, psychosocial, and other needs. A customized care plan was developed and specific goals were identified. Each patient received supportive services and intensive management, including chronic disease monitoring, management skills, behavioral health screening, psychotherapy, and other behavioral health care. Patients also received assistance in obtaining housing and other basic needs through collaboration with community organizations, including LEAVEN, the United Way, the Aging and Disability Resource Center, and the housing authority of the Fox Cities.

The team provided home visits for patients with special needs and physical and mental incapacity. Team members would also accompany patients to specialist visits for health literacy and evaluate them in the hospital, when admitted, to help with their post-care planning, minimizing readmissions to the hospital.

The results from this first pilot were extremely positive. The percentage of patients with uncontrolled diabetes decreased from 12 percent to less than 4 percent. Improvement was also noted in the percentage of patients with controlled high blood pressure, which increased from 89 percent to nearly 92 percent. And the percentage of patients who visited the emergency department more than 3 times in the previous 6 months fell from almost 50 percent to just below 19 percent. And for those patients with severe behavioral health symptoms, they were able to decrease their symptoms from 49 percent to 18 percent for anxiety and 53 percent to 40 percent for depression. And included in your written testimony, I give the table for other specifics on those results.

As far as technology goes, to improve access, we have incorporated e-visits. Patients now are able to consult with their ThedaCare primary care physicians on certain conditions. And for a flat fee of $35 and without having to leave work, a patient can get a diagnosis, prescription and/or a referral for followup with respect to 9 clinical conditions, and we are in the process of adding 11 more. And we have over a 98 percent satisfaction rate with our patients.

We also have tremendous experience with telepsychiatry. We have had a shortage of psychiatry, not only in our area but as recognized also in the country. We had a psychiatrist within ThedaCare that, for personal reasons, left our area and was still able to manage 2,000 patients from Utah to Wisconsin using telepsychiatry, having set up a remote clinic in the same office, and still sees, on average, 22 to 24 patients per day.

Lastly, for technology, we are implementing a telestroke program, which, as you know, stroke is much like a heart attack in that time is critically important. So, in our outlying hospitals in the rural settings, we can now connect those EDs with clinical specialists from our stroke and have clot-busting medication delivered within a few minutes as opposed to potentially hours.

So, again, in closing, from my perspective as a clinician, it is exciting to see the way that technology and innovation can transform

care and improve outcomes for our patients. And, of course, like other healthcare providers, we continue to be challenged with the traditional reimbursement of fee-for-service that do not always support technology and innovation care models. And for this reason, we will and have continued to explore payment alternatives like Next Generation and private-payer contracting to better support these clearly improved models of care. Thank you again for this opportunity to testify.

[The prepared statement of Mr. Long follows:]

Congressional Testimony of Greg Long, Chief Medical Officer and Senior Vice President, Systems of Care, ThedaCare

House Ways & Means Subcommittee on Health

Hearing on Exploring the Use of Technology and Innovation to Create Efficiencies, Higher Quality, and Better Access for Beneficiaries in Health Care

September 14, 2016

Chairman Tiberi, Ranking Member McDermott and Members of the Subcommittee, my name is Greg Long and I serve as Chief Medical Officer and Senior Vice President, Systems of Care for ThedaCare. Thank you for the invitation to appear today to discuss how technology and innovation can be leveraged to improve access to care, and deliver better care at a lower cost. It is an honor to appear before you today, alongside this distinguished panel. My remarks will focus on the work ThedaCare is doing with technology, data, and team-based care to better serve patients in Wisconsin.

ThedaCare is a non-profit, community-owned health system in northeastern Wisconsin, consisting of seven hospitals and 34 health clinics serving eight counties. We are the third largest healthcare system in the state and the largest employer in northeast Wisconsin. Our system serves over 240,000 patients annually and employs more than 7,000 healthcare professionals throughout the region.

ThedaCare has for many years dedicated itself to advancing information technology to improve the way our professionals treat and engage with patients, expand access and provide better, more coordinated care. In recognition of these efforts, ThedaCare has earned the "Most Wired" award for 15 straight years.

ThedaCare is also committed to delivering high value care – to us this means delivering the highest quality care in a highly efficient manner, thereby lowering costs for patients and the health system at large. We were an early leader in healthcare quality improvement, having adopted an improvement process in 2003 based on lean principles and tools. Since then, we have developed a culture of continuous learning that allows us to redefine better. It empowers us to provide better value and outcomes to our patients, and allows us to better manage costs. We use our improvement process to support our people, leveraging electronic medical records and a secure Internet patient portal to coordinate care.

Additionally, our Pioneer ACO, excelled as the highest quality, lowest cost provider organization in the nation. We are now excited to be participating in the Next Generation ACO model. ThedaCare is a member of the Healthcare Quality Coalition, a national group of leading health systems, hospital associations, and medical societies that are striving to transition healthcare delivery to a value-based system. ThedaCare is also a founding member of the Wisconsin Collaborative for Healthcare Quality, a consortium of quality-driven healthcare organizations, employers, consumers and business groups from around the state.

With that background, I will focus the remainder of my testimony on some of the work we are doing, and which I think illustrates how by re-deploying resources in a different way, healthcare systems can improve the status quo and redefine better.

1. **Using Data and Team-Based Care to Target Complex Patients**

The first example I will offer is the work ThedaCare has been doing to redesign care for its most complex patients.

In our service area, as in many other parts of the nation, a growing percentage of the population is challenged by obesity, alcohol abuse, diabetes, high blood pressure, asthma, lack of access to primary care, and excessive wait times for behavioral health services. These issues are particularly burdensome for the area's senior citizens, rural farm families, and low income populations.

To meet these challenges, ThedaCare embarked on a pilot project in 2014 to identify our most complex patients or "super-utilizers" who account for a high percentage of medical costs and who are at highest risk for complications associated with chronic disease. To do this, our team spent significant time developing data to identify high-risk patients. This included developing a risk calculator program in Epic, ThedaCare's electronic health record, and using it to stratify 7,026 patients being seen at the ThedaCare Internal Medicine Clinics, based on clinical factors, utilization of services, and psychosocial needs. A total of 600 patients were identified as being in the high-risk or dangerous-risk group at the ThedaCare Internal Medicine Clinic in Appleton. The pilot project involved 282 of these dangerous or high-risk patients who were enrolled into the new model from November 2014 through October 2015.

The model itself is a decentralized, team-based model comprised of three care coordinators, one registered nurse (RN), one clinical pharmacist, one behavioral health clinician, one nurse practitioner, and one medical assistant, plus three part-time staff comprised of one RN, one clinical pharmacist and one behavioral health clinician.

As a first step in the model, each patient met with the care team and completed an initial assessment of medical, psychosocial, and other needs. A care plan was developed and specific goals were identified. Each patient received supportive services and intensive case management, including chronic disease monitoring and management skills; behavioral health screening; psychotherapy and other behavioral health care; medication consultation and counseling from the clinical pharmacist; and life skills classes (managing stress; maintaining self-care; coping with anxiety, depression, and/or ADHD; building self-esteem; and addressing emotional support needs of caregivers). Patients also received assistance with obtaining housing and other basic needs through collaboration with community organizations, including LEAVEN, the United Way, the Aging and Disabilities Resource Center, and the Housing Authority of the Fox Cities. The team provides home visits for patients who have special needs, or who are physically or mentally incapable of meeting at the clinic. Very recently, the team has begun to explore the use of technology in disease management; a small number of patients have been uploading their blood sugar results to a Smartphone or iPad and submitting them to the clinic electronically.

The results from this first pilot were positive. The percentage of patients with uncontrolled diabetes (A1c > 9) decreased from 12% to 3.8% over the one year evaluation period. Improvement was also noted for the percentage of patients with controlled hypertension (<140/90), which increased from 89% to 91.5% and for the percentage of patients who visited the emergency department (ED) more than three times in the previous six months, which fell from 11.8% to 2.6%. The percentage of patients reporting moderate or severe behavioral health symptoms fell from 46.9% to 18.8% for anxiety and from 53.1% to 40.7% for depression. Outcomes for A1c > 9, hypertension and ED visits exceeded outcomes for high-risk/dangerous-risk patients being seen at other ThedaCare physician outpatient clinics at the same measurement point. Additionally, for all patients at the ThedaCare Internal Medicine Clinic in Appleton, hospital readmission rates fell from 12.8% in 2014 to 7% by October 2015.

Metric	November 2014	October 2015
Patients with A1c > 9 (cohort 1)	12%	3.8%
Patients with A1c < 8 (cohort 1)	74%	78.8%
Patients with controlled hypertension (HTN) (< 140/90; cohort 1)	89%	91.5%
Patients visiting ED (cohort 1) (> 3 times in previous 6 months)	11.8%	2.6%
Patients with moderate or severe depressive symptoms	46.9%	18.8%
Patients with moderate or severe symptoms of anxiety	53.1%	40.7%

ThedaCare is expanding this model to include a second patient cohort including the remaining patients in the highest risk category, as well as a group of patients in the next risk category (rising risk) as identified through the risk calculator.

We are also implementing a new community paramedic program, supported in part by grant funding from the Robert Wood Johnson Foundation, with the goal to provide in-home visits to the most medically challenging patients. In this program, paramedics from Gold Cross Ambulance will obtain certification as community paramedics, allowing them to function outside their customary emergency response and transport roles in ways that will facilitate more appropriate use of emergency care resources. It also will enhance access to primary care for the project's most complex patients.

In this project, certified community paramedics from Gold Cross Ambulance, which is jointly owned by ThedaCare and Affinity Health System, will provide in-home health education and, under the direction of the treating physician at the internal medicine clinic, will follow up on targeted patients to check and monitor health outcomes. For example, these community paramedics will help patients monitor their HbA1c, they will check to ensure that patients are complying with medication regimens, and they will answer any questions that patients may have about disease management, including blood glucose monitoring, blood pressure monitoring, and medication reactions. Community paramedics will also make referrals to community organizations, as needed, for other kinds of support services and needs. This role will represent

an expansion of the role performed by a community health worker in that patients will benefit in their homes from the additional medical training and medical care provided by the paramedic.

2. Leveraging Technology to Improve Access

The following are three more examples that show how ThedaCare is leveraging advances in technology to make primary care more convenient and accessible, close gaps in access due to shortage of medical professionals, and better serve rural areas.

- **E-Visits**: Patients are now able to consult with their ThedaCare primary care physician on certain conditions through a web-based portal, and get a response within 20 to 30 minutes. For a flat fee of $35, and without having to leave work, a patient can get a diagnosis, a prescription and/or a referral for follow-up care with respect to 9 clinical conditions – e.g., acne, pinkeye, diaper rash, influenza, upper respiratory illness. The program, which has been in place for about a year and a half, is very popular. More than 2,000 patients have accessed this service to date, and it has a 98% satisfaction rate. ThedaCare is expanding the program to include up to 20 clinical conditions.

- **Telehealth Psychiatry**: There is a severe shortage of psychiatry professionals in Wisconsin, as in other parts of the nation. Several years ago, a ThedaCare psychiatrist with a panel of about 3,000 patients re-located to Utah for personal reasons. Other psychiatrists in the service area had full panels with long waiting lists. To maintain access to this critical service, and notwithstanding the fact that certain payers including Medicare will not pay for tele-psychiatry services due to geographic restrictions, in April 2013 ThedaCare Behavioral Health set up a tele-video facility where the psychiatrist can continue to treat patients in Menasha, Wisconsin from Utah.

- **Tele-Stroke Program:** ThedaCare recently received a grant award from the U.S. Department of Agriculture to implement robotic technology to remotely monitor stroke patients in rural settings. ThedaCare is in the process of purchasing the technology, and expects to implement it within the next four to six months. Tele-stroke programs are not new, but with this funding ThedaCare is excited to be able to provide this service at our rural sites and we believe that it will improve the quality of care and reduce the need for costly and risky patient transfers.

In closing, from my perspective as a clinician, it is exciting to see the ways that technology and innovation can transform care and improve outcomes for patients. Of course, like other healthcare providers, we continue to be challenged by traditional reimbursement structures like fee-for-service that do not always support technology and innovative care models. For this reason, we have and will continue to explore alternative payment models like the Next Generation ACO program and private payer contracting strategies that better support the types of initiatives described above. We believe these innovations are critical to improving patient experience and health outcomes.

Thank you again for the opportunity to testify today.

Chairman TIBERI. Thank you, all four of you, for fascinating testimony. We have got a lot of member interest today. I am just going to have two quick questions here.

Mr. Gallup, I will start with you. I had an opportunity to take a look at your numbers, and the success that TeleTracking brings to every facility it contracts with. I obviously had an opportunity to view what you are doing at Ohio State and saw that nerve center or command center, which was amazing.

Is there a role for what you are doing on the commercial side under Federal healthcare programs? And do you have any experience with any government programs? Additionally, how can we utilize what you are doing for facilities out in our communities for Medicare, Medicaid, or other Federal programs?

Mr. GALLUP. It's a good question. Let me start with one thing, as we all have these discussions up here, which is the care teams and people in the hospital are amazing. They are working as hard as they possibly can to deliver the best care. And I just want to make sure that that goes on record. A lot of this is a lack of tools that, frankly, we provide to them.

And to your question, yes, we have some experience. Probably the best example is we are currently working with NHS in England right now. There is a lot going on with them. And we have gone at that from a public-private partnership perspective. We are working with a group called NHSI, NHS Improvement. We found three different trusts over there that they are monitoring and that we are working in and putting this platform into place. And what we have done with them is created a 50/50 kind of investment model, where they put in a dollar, we put in a dollar, and we invest in helping them get this technology and be able to help their patients.

Obviously, as you all know, they are publicly funded totally, and that causes some significantly different behavior in the fact of it is a total zero-sum game. There isn't a lot more money to go get. And they have found that the way to do this is—I mean, they have an aging population, as we do, and they have got to put more patients through the system than they have previously, and that is going to cost money. And so we help them see that you can get more patients through the system at the same rate, and that is what we have been working with them on. And we have a system—a trust there. I have to keep translating between their language and our language. So that we have a trust there that we are able to help get 10 percent more patients through at the same cost, and as a matter of fact, they even shut down units and were able to get more patients through their system to show that this was the way to serve more of their people. So we could do the same, similar thing.

Chairman TIBERI. So, for my colleagues, I was at Ohio State's Medical Center, the Wexner Medical Center, a couple years ago. And they had a challenge that many hospitals had that they had not enough space, at least they thought. Not enough space. And so they had people in the emergency room in the hallways. So I go back to Ohio State last month, maybe July, I can't remember, it all runs together now. And Mr. Gallup was there. Dr. Retchin, the CEO, took me to this command center. And if you can think about going to a restaurant. This is how Dr. Retchin described it to me.

This command center has every room in the entire hospital in the command center. And I think green meant the room was empty; red meant the room was full; and orange meant it was being cleaned.

So the fact of the matter is, in this command center now, they can communicate with the emergency room or the entire hospital, actually. And so, if you are a doc in the emergency room, you can see on the board if there is a room that is being cleaned that is going to be ready and when, or if a room that is empty, much like a maitre d' in a restaurant can look at a computer screen to see what table is empty or what table is being cleaned. And so the efficiency that you have brought to this hospital in Columbus has been incredibly important. So thank you for your leadership.

Dr. Long, I have read a little bit about how your system has evolved over the years and how you have been cutting out the fat in the system. Kind of the same question I asked Mr. Gallup. Is there a way to apply this, and are there examples of what you have done through your experiences that could benefit Medicare or other Federal programs?

Dr. LONG. Yes, absolutely. And really related to the last question, an interesting statistic that we found just in our organization alone, of our seven hospitals, we have 21,000 inpatient discharges. In all total, our ambulatory practice, you see over a million touches per year compared to 21,000. So what we really like to try to do is catch people before they even have to make it to the hospital. So, in light of the shortage of primary care, we feel that our team-based care model, as an example that I shared, is a way to leverage clinicians working at the top of their license to be able to support primary care, which still traditionally is the touch point for these chronically ill patients. And just sharing the statistics I did, we feel that we at least have a model, once spread, can actually be as cost-effective, because we can pay for other caregivers, not necessarily having to hire as many physicians, managing larger panels of patients.

And my future would be, can we get into some sort of a capitated model that is based on the risk of these patients, not in the old HMO way, but more customized for these panels, and certainly, Medicare falls into that category. And I think our experience with Pioneer would show that we were able to manage patients to the lowest spend per beneficiary, all while achieving the highest level of quality. So we think we have been able to do that for many years.

So I think the key is, how do you match the payment methodology at the same time you are improving care. I think that has probably been the biggest barrier for most healthcare systems is that, as we continue to do the right thing for patients, we are currently cutting our own revenue and not being able to pay in a manner that I think would be most beneficial in the future. So I am very confident that we can do it if we can sort of match payment methodologies as we make those improvements.

Chairman TIBERI. Great comments. Thank you.

I will yield 5 minutes to Dr. McDermott.

Mr. MCDERMOTT. Thank you, Mr. Chairman.

Mr. Kelly told a story at the beginning, which, you know, you would say to yourself, how could that happen in a modern hospital with all this technology? I was involved with the surgeons in their application of a checklist kind of system that is used in the airlines. When a pilot is going to take off a plane, he has got a checklist of stuff he has got to go through, including going out and walking around under the plane and looking to see whatever is under there.

Tell me what is in place in your system that protects the quality of care for patients. I am all for efficiency and saving money, but the bottom line, as far as I am concerned, is what happens to patients. And what happened in Mr. Kelly's story is unacceptable, and I wonder how you deal with that. In trying to cut costs and cut people, how do you prevent that? Any one of you can——

Mr. BLACK. This is Paul Black. One of the things we try to do inside of our electronic medical records is provide a checklist set of capabilities that you are mentioning. The caregivers all are extraordinarily dedicated to the Hippocratic oath that they have taken, which is to do no harm. So there are a lot of people that are out there each and every day that are working as hard as they possibly can, and they are, in many cases, performing miracles. So I always try to start with that description first about these wonderful people that are out there.

Mr. MCDERMOTT. I am a physician, so I understand what you are talking about.

Mr. BLACK. Yes, you do. And, you know, they are busy. They have got a lot going on, and no one ever does anything to try to cut a corner that would cause any sort of avoidable medical error. There are checklist systems that you can have inside of the surgery suite, and there is bedside bar code administration. A lot of the errors that occur in the industry have to do with medication administration, and this thing you may have heard in the past about five rights: right bed, right patient, right dose, right caregiver, and right time. Those five doses—those five rights, as it is called, are things that we also automate as part of our medication administration process as part of the physician and caregiver order entry, and to complete that entire loop is all monitored and checked by the computer.

Mr. GALLUP. You can have all those checklists, especially when you go into an OR or whatnot or providing drugs. In Mr. Kelly's example, the patient got lost somewhere in the hospital. The hospital is a big plant. So that is exactly what we do. We know exactly where those patients are. We know exactly where the staff members are. We, in real time, say, this patient has been in this space too long. We can actually tell you if a patient has been in a bathroom too long and maybe has fallen down. Right. These are the technologies that aren't out there in health care right now, to let you know exactly what is going on.

And it even counts in the clinics. To the doctor's point, there is a lot more visits out in the clinics also, and these clinics could run more efficiently. We are working with a system, and I won't name the name, but they are very, very well-known for being one of the most efficient systems anywhere. And they thought their clinics were running at 80, 85 percent. When we went in and put in these

technologies, that say, "Here's where people really are, here's what they are really doing," when they looked at it, they were at 35 percent utilization of all their assets, including the docs. So, imagine being a doctor, which you are, and you are being utilized at 35 percent, and you are told: You know what, if you did it this way, this way, this way, you could now do 30 percent more work. You know?

Mr. MCDERMOTT. Let me just follow up on that to ask you, if you have this system in place, who is monitoring and saying, "This person has been in the bathroom in their room too long"?

Mr. GALLUP. The system will do that. The system will say——

Mr. MCDERMOTT. Who does it tell? I mean, the system has got to some people somewhere.

Mr. GALLUP. Yeah, yeah. It will tell the nurse who is assigned to that patient: Hey, nurse, this is what is going on.

If the nurse is too busy, it will escalate to the charge nurse.

Mr. MCDERMOTT. On her cell phone——

Mr. GALLUP. On their cell phone.

Mr. MCDERMOTT. Monitor, or where?

Mr. GALLUP. On a cell phone, monitor, exactly right. Both of them start to alarm and start to say: This patient has been there too long.

In all situations, you can send it to a pager, a phone. You can have it on a screen. You can have an audible alarm. You can do a lot of things to say: This has gone on too long.

And that counts for everything from that perspective, right. That counts from: I got to get my patient from point A to point B, and I know how long it is supposed to take to get to point A to point B, and this is an emergency. How do I then help them get there? Does that make sense?

Mr. MCDERMOTT. Yes. Thank you, Mr. Chairman.

Chairman TIBERI. Thank you.

Mr. Roskam is recognized for 5 minutes.

Mr. ROSKAM. Thank you, Mr. Chairman.

Mr. Chairman, good job hosting this today and calling this. This is important work, and I really appreciate the perspective of all of the witnesses, and I am learning things by listening to you, and I really appreciate your taking the time.

Mr. Chairman, I have good news for you. You know what the good news is for you? The good news, Mr. Chairman, is that Mr. Blumenauer and I have been working on a bill that fits right into this theme. Let me briefly tell you about it, and I think you will like it, and I think our panel will like it as well. And it has to do with this notion of using the technology that is already deployed at the Department of Defense, applying that into a common access card for Medicare patients to go right at this question of fraud.

And what Mr. Blumenauer and I are proposing is a pilot program, not a big rollout all across the country, but a pilot program to get at some of the waste and so forth and the actual fraudulent transactions that are being manipulated by criminals. So, in the Oversight Subcommittee that I chair, the fraud rate and erroneous payments last year was 12.7 percent. I just got a text from my staff that, hey, good news, it has dropped to 12.1 percent. So if you just do a quick back-of-the-napkin calculation, we are throwing away, literally throwing away about $60 billion a year, roughly. So there

is some very significant work for us to do, and I commend this to your attention.

So let me just ask a couple of questions. Mr. Short, you were talking about, in your opening statement, about HealthSparq and MedSavvy. On HealthSparq, I assume it is kind of an app or a place that you can go online and so forth. How do you navigate through cost comparisons? Because one of the things that I think my constituents find frustrating is you go to a physician; there is a procedure that is done; and we have created this current system where the two people that should know the most about the cost of the transaction—that is, the physician and the patient—have no idea of the cost of the transaction. And our culture basically says: If you ask about the cost of a doctor, that is almost an offensive question. Try that. Hey, doc, what is this running me today? And your doctor will have an ashen-faced look. You got to talk to Mavis at the front desk. You go to Mavis at the front desk. She has no idea. So how is it that you have an idea?

Mr. SHORT. That is a great question. The institutions of health care have created this mirage of walls, where transparency isn't something that is an everyday occurrence in health care. And so what we established was we worked with 70 health plans across the country, and we took all of their provider registries. We took what their contractual rates are that they agreed to with providers, and we serve it up in what we call HealthSparq, our company, that allows a consumer, a member of any one of those 71 health plans covering 70-plus million Americans, to go in and do a search on their procedures, look at cost estimations, and actually look at what the cost is if they go to a particular doctor or a particular facility.

Mr. ROSKAM. Okay. So it is calibrated, based on who the health provider is or, I am sorry, who the carrier is?

Mr. SHORT. Yes.

Mr. ROSKAM. Okay. Time is short. Could I just ask you to contemplate, the four of you, and maybe give us some feedback later? Because we don't have time. Legislatures tend to lag real life. It is just the way it is. It is not an inherent criticism. Legislative bodies don't lead, by and large. It is the nature of them. So we are hearing from you. You are hunting out ahead of the pack. And we are being urged, the theme today is we are being urged to catch up with you, which is what we should do.

Could you give some thought to sort of blue-skying us further out? Like what is the next thing that we should be thinking of? What are the things that you are thinking of, you and your boards and so forth are thinking of that are 5 years out and 10 years out, not just today, but that we should actually be broadening out? We don't have time for that now, but I would be very open to continuing the discussion, and I know I speak for everybody here that is interested in this longer view.

I yield back.

Chairman TIBERI. Thank you, Mr. Roskam.

Mr. Kind is recognized for 5 minutes.

Mr. KIND. Thank you, Mr. Chairman.

I would echo that sentiment. That would be a perfect tee-up for some future hearings to talk about the next 5, 10, 15 years and

what is on the horizon and what we need to be thinking policywise to coordinate with the tremendous innovation that is taking place, because I agree with my good friend, Mr. McDermott. This is one of the more important and useful hearings that we are having this year, and inspiring, too, because of all the incredible innovation that is taking place in the healthcare field.

Dr. Long, I would be remiss if I didn't ask you a question about your participation, ThedaCare's participation in the Next Gen ACO and the success that you guys have realized, because there have been some ACOs that have decided the risk-sharing component that is involved is not worth it because they have already been high-quality, low-cost for some time, and it hasn't worked that well for them, so they opted not to participate.

But before we do, I think we have got three great revolutions going on right now in healthcare reform. One is, obviously, the build-out of the health information technology systems. Before the American Recovery Act, before ACA, we were deplorably behind the ball when it came to electronic medical records and the meaningful use and interoperability, our ability to start collecting the data so we know what is working and what isn't, and then disseminating that information and driving that back into the hands of doctors and patients so they can make good decisions with it. And we see a lot of that exploding right now. And, of course, in Wisconsin, we have got Epic Systems too out of Middleton that has been doing tremendous work. So that is one aspect of the revolution that is happening.

Another is the delivery system reform that we are hearing about today, a more integrated, coordinated patient-centered healthcare delivery system that was long overdue. And, of course, being from Wisconsin, we have got providers of care, whether it is Theda, whether it is Gundersen, the Mayo System, Dean, Marshfield, Aurora, that have been at the forefront of this revolution on delivery system reform for some time. And then, finally, and I think the big one is aligning the financial incentives the right way so we are rewarding outcome, value, quality, and no longer fee-for-service and just doing more, regardless of results. That was bankrupting us, because right now we are on a race against time as a Nation, whether we can get smart quick enough in the healthcare field before we grow too old. And with 70 million boomers about to enter retirement and join Medicare, it is a race against the clock.

But, Dr. Long, back to ThedaCare, the Next Gen ACO model that you are participating in, because I have heard, you know, some criticism, especially from the higher providers, the high-quality, lower cost providers, that there is not much incentive for them to be joining this program because of the risk-sharing component and the fact that they have already been hitting those marks for some time. How has ThedaCare managed that?

Dr. LONG. Well, thanks for the question. And it gets back to what I said a little bit earlier. We were in for 3 years in the original CMMI Pioneer. And one of the reasons we got out is because we thought we had hit that ability to get some shared savings back. So, to your point, when you are a high-quality, low-cost provider, there is not much left to be able to get in shared savings. And that is why we think the next step and somewhat to the blue-

sky comment is, how do we then go from the current model and escalate that into more of a risk-adjusted capitation model where the low-cost providers can get a lump of money that they know they can make the necessary margin on, but still offer extremely high-quality care? So we got out of the Pioneer 2 years early, because we were concerned about that very issue. So it is a leap of faith to try to move to that next model, which there is a lot of nervousness about because of the old HMO days, but we think we can do it differently.

Mr. KIND. Theda is also in a nine-county northeastern region of the State too, which includes a lot of rural areas. And, of course, I represent a large rural western Wisconsin area myself. But are there some unique challenges that rural providers are facing under the ACO model?

Dr. LONG. Absolutely. And that is where I think we can connect with our community services. You know, we put together a rural health initiative that actually we supported and actually had a nurse going out to farmers in their homes and being able to help manage. So I think there are a lot of creative ways that you can put other clinicians with primary care physicians and expand the reach.

You know, to Mr. McDermott's point, I mean, regardless of technology, medicine is still a pretty high-touch industry. And it was interesting in the New York Times just this past Sunday, you know, they talk about the old-fashioned way of treating diabetes. You can connect and engage people with technology, but you still have to work on all the things that are barriers for them to receive care.

So I think it is very fitting to sort of get back to the basics, if you will, and help people through their psychosocial issues, their depression, their anxiety. And we have shown that we can manage that population.

Mr. KIND. It is also about the vanguard of telehealth too. But I am especially intrigued and excited about the e-visit program that you set up, making it easier for people——

Dr. LONG. Another way to get access.

Mr. KIND. Electronic communication to get prescriptions and feedback without having to schedule an appointment, waiting time, and all the hassle that goes with that. So that is something more that we need to be exploring, I believe.

Thank you, Mr. Chairman.

Chairman TIBERI. Thank you, Mr. Kind.

Mr. Smith is recognized for 5 minutes.

Mr. SMITH. Thank you, Mr. Chairman.

And thank you to our panel for sharing your insights and expertise. Obviously, a lot of taxpayer dollars are involved and the subject matter here today, and I certainly want to do my part in making sure that it is spent wisely.

A common refrain that I hear when I visit hospitals across rural Nebraska is that the providers and administrators are certainly proud of the equipment that they have, but they are also concerned about their inability to meet the meaningful-use requirements and that they can't even communicate effectively with other providers or hospitals.

And small hospitals have expressed concern that, after their upfront investment, they have to continue paying licensing and maintenance fees on their systems, which certainly can challenge each and every one of their budgets.

Now, based on these concerns, I do have a couple questions, so if you will help me out here.

I hesitate to suggest a one-size-fits-all system, because I doubt that that would work, and I don't know of anyone up here who would support that. But how can we ensure that this technology, which has been purchased, perhaps, can actually communicate one with another or even universally?

Mr. BLACK. That is fundamentally what we do when I talked about our interoperability platform. I agree that the dollars have been spent, and that is one of the other distinctions that we have as a company is that we don't advocate ripping and replacing electronic medical records. We say the investments have been made. If the record doesn't work or if you have problems with your current supplier or they have decided not to go for MU3 compliance and you have a problem, go do that. But if you have one, make what you have work and have it be interoperable. And if your supplier does not have an open approach, then we will help you, as a client, get that data out. Everybody adheres to some level, to some form of standards. MU1 and MU2 guarantee that. So we can get the data, and I can emancipate that data, if you will, from the EMR if that needs to be done and there is some sort of effort on the other side from people not wanting to make that available.

Mr. SMITH. So are you suggesting that, with relative ease, it can already be done—ease and/or low cost?

Mr. BLACK. It is not necessarily easy, but it has been done at scale with a lot of very large organizations and some very small organizations. I have got people as large as HCA that uses our solution, and we have a client up in Vermont, a small 50-bed hospital, that is trying to connect to 45 different physician practices to make all the information in that community available to one another on five different electronic medical record platforms.

Mr. SMITH. And I might suggest that facilities do actually get quite smaller than that.

Mr. BLACK. Yes, sir.

Mr. SMITH. And yet I sense they are burdened even more so with the requirements and the mandates and the costs and the hoops, I mean, in very remote parts of our country.

Now, on the topic of cost and so forth, can you demonstrate that there is enough competition in place right now that there is actually downward pressure on these costs? Because, I mean, talking to providers, I take away from them that they are concerned that their costs are just spiraling out of control in an upward fashion rather than more competition, driving down the cost.

Mr. BLACK. Yeah. There is a lot of competition in these marketplaces. There are over 450 different electronic medical record suppliers that have been certified by the ONC, and there are various different models for pricing in that regard. There are license models. There are SaaS models, which is software as a service.

One of the companies actually offers software for free. They make you look at advertising from PhRMA, but it is a free elec-

tronic medical record. So there are lots of different models that have been put out there.

Over time, value, you know, gets displayed by what outcomes you are able to deliver with your client, and that is something we focus on very, very vehemently, which is we want to make sure our clients are successful in using these systems to connect, to transfer data, to look at it from a community standpoint, and then move that information once it has been analyzed back down to that caregiver so they can actually take action at the bedside, at the home, or wherever that might be.

Mr. SMITH. Okay. Thank you.

Thank you to our witnesses.

Thank you, Mr. Chairman. I yield back.

Chairman TIBERI. Thank you.

Mr. Blumenauer is recognized for 5 minutes.

Mr. BLUMENAUER. Thank you, Mr. Chairman.

Mr. Short, I was probably derelict in not mentioning one item here that I think identifies can be as person-oriented approach to sustainable health care, because we have worked with your company, your CEO, Mark Ganz, for years on end-of-life care. And watching what you folks have done on so many different levels to raise awareness, help in terms of policy development, empowering patients is deeply appreciated and I think makes a big difference and illustrates your approach.

I wanted to just delve a little further into one point you made in the course of your testimony, where you are talking about having mechanisms to help people take prescription drugs that have been prescribed, presumably filled. My memory is that about half of them really are not taken.

Now, we can be concerned perhaps about some extraordinary predatory pricing mechanisms on behalf of a few drug companies that raise eyebrows, but this stuff needs to be taken to have the transformational effect. What is it that you are doing that you think is closing that gap?

Mr. SHORT. You know, in the space of pharmacy, it is the one place where transparency in health care today is absolutely possible right now. And so we started an effort that we call MedSavvy. I mentioned it in my own testimony.

If you think about it today, when someone goes to their physician and is prescribed a medication, a quarter of the time when they show up at the pharmacy, they do not fill it because they were not aware of the cost out of pocket. There is another significant percentage of individuals who do not fill that prescription because of the side effects that are described by the pharmacist. There is another percentage that get home and, because that is in the back of their mind, don't complete it.

And so we have done two things: One, with GNS Healthcare, through taking consumer lifestyle information by connecting with EMR claims data, by looking at just all of our claims data as an organization, we actually look and create predictors for which members, patients, consumers will not take their medications and will not likely show up at the pharmacy, who will stop 30 days later.

And instead of try to create rules-based engines on the back end of all that and reach out to a consumer or to a member to solve the problem after the fact, we have worked to put MedSavvy in the hands of both physicians and the patients that essentially allows all those conversations to be offered upfront when the prescription is being prescribed.

And so when I described the letter grades that we have talked about, literally looking at the effectiveness of medicine, which there is tremendous research on, to understand which drugs are most likely going to be successful and then actually allowing the physician at that time, through the MedSavvy application, to understand what that member's cost is going to be when they show up at the pharmacy, so there are no surprises, because that is the point to have the conversation, not to create lots of hoops downstream.

Now, in the event that a consumer or patient has done all the things right to go home with that medication, through the work that we do in our algorithms with GNS, we do an outreach program. And this is where the human touch comes in, because care is human. And we will have care managers reach out to patients that we know are at risk of discontinuing their medication, asking them how it is working, if there are any complications, so that we can reconnect them with their physician. So that is what we have started in 2015 and 2016.

Mr. BLUMENAUER. And what are the metrics in terms of the impact? How well does it work?

Mr. SHORT. Metrics, so the metrics today are that we are in three pilots. We are in a pilot in the State of Idaho. We are in the State of Oregon. So they are both in pilot phases today. We are doing them with delivery systems. And the metrics today are that the physicians that are prescribing medications, a significant portion of the time when they are looking at that are actually having a different conversation with members, and we see an increase.

It is early to tell you from a pilot standpoint what the actual metric will be, but today, there is about 79 percent engagement in the conversation, which is where we believe it starts.

Mr. BLUMENAUER. And do you involve pharmacists in this?

Mr. SHORT. We do. Actually, we employ pharmacists that do the work on the development of the programs and services. But from that point, we actually are all about enabling the patient physician conversation.

Mr. BLUMENAUER. Okay. Thank you very much.

Thank you, Mr. Chairman.

Chairman TIBERI. Thank you.

Ms. Jenkins is recognized for 5 minutes.

Ms. JENKINS. Thank you, Mr. Chairman. Thanks for holding this hearing.

We thank the panel for your testimony and for joining us.

This discussion regarding the use and future of healthcare technology and its ability to drive down the cost and increase access for Americans is a key discussion. I think most people know, in my home State of Kansas, we are one of the top agriculture and aerospace States. But what a lot of folks don't know is that we are a hub for health technology companies as well.

And it is also a very rural State and has many residents that are unable to access needed care to their location away from a major city. And so one of my priorities on this subcommittee has always been to help folks in rural parts of Kansas get the care that they need more easily than they can today.

So maybe my first question would be for Mr. Short. In your testimony, you touched on Cambia's investment in Carena and its ability to allow providers to extend their service area with virtual visits. How will that technology help folks in a place like rural Kansas get better access to better care and drive down the cost?

Mr. SHORT. Absolutely. It is a great question.

Telehealth today is a great extender outside of a traditional bricks-and-mortar setting in health care, especially in rural areas. There are pilots throughout the country—we have them in the State of Oregon—where rural county critical-access hospitals are doing telehealth with their patients that then enables a conversation to occur on whether or not they need to come into, if you will, Portland, a bigger city for more care.

You know, when you think about access itself, I will speak to just seniors—6 in 10 seniors today have flip phones, 30 percent have smartphones and mobile devices. And of that, things like Skyping, online chatting, are very, very common. When you think about seniors specifically when it comes to accessing care—and I think about my grandfather myself—transportation is a significant problem to get to a facility to have care.

I can remember being 16 years old and my grandfather needing to get to an office visit. And I would get out of school to take him. And guess what? He lay awake all night, worried, concerned, am I going to make it? I will tell you—he is no longer alive, but I wish we had Carena 20 years ago because my grandfather wouldn't have had to lay awake wondering is a 16-year-old grandson going to show up or not.

And he could have done everything on his iPad. And they have iPads today. Because his conditions, his chronic conditions, which are prevalent in senior populations, he didn't have to go in and be seen firsthand. So when I think of rural areas—and I grew up in a rural area—what a great opportunity to extend care. What a great chance to connect additional care extenders so that it can connect into EMRs to prepopulate, so that when someone, a senior or a patient, ends up in a more critical care setting, all of that relevant information is there so that their treatment plans are holistic in nature and not point specific. So I think Carena is a great opportunity to extend that.

Ms. JENKINS. Great. Thank you.

Mr. Black, it sounds to me like the private sector is working really, really hard to solve this problem exchanging information between providers that we have heard about for so long. Can you just briefly tell us more about the progress and information exchange and what you think Congress should be doing to increase adoption of what is working?

Mr. BLACK. I think that there is an awareness component here that is startling to me, quite frankly, because a lot of the things that people talk about with respect to the interoperability standards, the issues with regard to interoperability have been solved.

And I think that there needs to be a greater awareness of what is happening out there in the small areas as well as the large areas, meaning the very small rural areas that need to have the connectivity as well as the larger organizations.

Unfortunately, there have been hearings and other discussion about data blocking and needed discussions about that because that has occurred in the past. And I think, because of some of these hearings, those issues have been removed, either behaviorally or economically, or in some cases, there has been a way to actually call a hotline and to report somebody that is actually doing data blocking. So I think there are a lot of reports and a lot of data that are out there that would suggest that that has broadly been solved.

I think that the work to be done through the ONC has also done a very good job and the new rules on MU3 actually create another layer of exposure into electronic medical record. So if I am a supplier of electronic medical records, the application program interface is a different layer by which somebody can get into. A third party can get into your record with permission, with security, et cetera, and pull data out. And that is a big component of what is inside the MU3 legislation that I think is very valuable.

The other piece that is inside the MU3 legislation that is very valuable is ability for patients to get access to their data. And at the end of the day, I think this discussion has to center more around the ownership of the data is not a large company, it is not a for-profit company, it is not an electronic medical record supplier, it is not the physician. It is the person. It is the patient. And that is the person that should own it, and everything should be engineered around that experience.

And I am telling you, now with the digital platform, there is going to be hundreds of people that understand that this platform is digital and this platform is accessible through APIs, and there is going to be a wealth of new innovation that sits on top of this thing when we look out over the next 5 years. There is going to be blue-sky efforts. There is going to be all sorts of wonderful things get created as a result of this new platform that this great country has funded in great part over the course of the last 4½ years.

Thank you.

Chairman TIBERI. Good questions.

Mr. Davis, you are recognized for 5 minutes.

Mr. DAVIS. Thank you very much, Mr. Chairman.

And I also want to thank all of our witnesses for being here.

Dr. Black, it was indeed a pleasure to meet and have some discussion with you yesterday. And I know that Allscripts has made significant investment in finding more effective approaches to treating diabetes, which in some of the communities that I represent, has almost reached what I would call plague dimensions. Could you share a bit more indepth what it is that Allscripts has been looking at in terms of this.

Mr. BLACK. Yes, sir. Thank you for the question.

One of the things that we have as a byproduct of all this process automation is the data. And so we have, in our capability, over 40 million lives of humans that are out there that we have de-identified the data, and we actually perform a fair amount of research.

There are all sorts of tools that data scientists can use to look at data.

I have a thesis. I am going to go in and look for a problem, or I am going to let the data talk to me, if you will. That is called machine learning. And what we are seeing with our 40 million people is, when we have specifically looked at the diabetes problem, is there are seven conditions, seven items or data elements that are out there that are predeterminants of a future diabetic problem.

And so what we are doing is looking for people who have those seven preconditions, where they may not yet be a diabetic, that we are working with them through cell phone alerts or other ways to score them on a health score basis to give caregivers or just the person themselves awareness that they actually are trending towards a diabetic condition.

So that is another use that we talked a little bit earlier. My colleague from Cambia talked about the predicting capability of before somebody becomes debilitized by something as horrible as diabetes. Some of it is genetically engineered, and you, unfortunately, chose your parents incorrectly. Some of it is preventable. And some of this that we are working on has a lot to do with what prevention we can do by the data that will show the actions that you can take to prevent it.

Mr. DAVIS. Thank you very much.

Dr. Long, you also mentioned high blood pressure and diabetes as an area of significant interest. Could you share a bit what you have been working on?

Dr. LONG. Absolutely. Thank you.

Actually, to Mr. Black's point, I think this is a great example of where the technology and the high touch of medicine is still a great example. We are looking at, with this team-based care model, that these clinicians, especially the care coordinators, we have 150 complex care patients that are assigned to, by name, a care coordinator. So they literally develop a relationship.

What the data does is gives that care coordinator real-time point-of-care often information that if you have a diabetic, where are they in the system? Are they potentially going to be admitted to the hospital? Are they high risk for ED visits? So we can actually proactively reach out to these patients and oftentimes using technology in the rural areas, FaceTime, Skype, to interact with these folks and actually help them.

Because what I talked about too—I didn't get into a lot of the details, but as most everybody knows, there is a lot of the psychosocial behavioral issues that actually prevent these high-risk patients from staying healthy or getting healthy. So this is a great marriage of data and our care coordination function team-based care model to reach out proactively and help those patients lose weight, get on the right diets, and get their chronic illness under control.

Mr. DAVIS. Thank you very much.

Dr. Black, you also mentioned a bit about clinical trials. And we know that there are some population groups that are reluctant to engage in clinical trials based upon historical acts that have occurred. Does Allscripts do anything to try and convince any of these groups to become more proactive relative to clinical trials?

Mr. BLACK. Yes, sir. We are very convinced that we can help people identify, if they have a condition that they are suffering from, that your last hope has been exhausted and you now need to look for an experimental clinical trial or to be—am I a candidate for a clinical trial that is out there, that is something that people have somewhat changed their mind over time.

If I am sick and I have been to my primary care, I have been to my specialist, I am not getting any better, what else is out there? What conditions do I have that are so unique that I am not getting better?

And that is why a clinical trial for us to be able to identify for them a trial that is local, a trial that would meet the criteria that they are currently—the conditions that they have, the medications they are on, and the, you know, even the behavioral health component. Here is a multifactorial complex problem that you are trying to navigate as a human, and to match them up electronically with a clinical trial is something that the PhRMA industry is eager to do that, and many patients, once we show them the evidence and the data, will be extraordinarily happy to become a participant in.

Mr. DAVIS. Thank you very much.

Mr. Chairman, I yield back.

Chairman TIBERI. Thank you.

The gentleman from Texas, Mr. Marchant, is recognized for 5 minutes.

Mr. MARCHANT. Thank you, Mr. Chairman.

I think my fear with all of this technology is that our government programs, Medicare and Medicaid, either have rules or regulations or there is legislation that is necessary to make it so that the doctors and hospitals can fully utilize these new technologies with these kinds of patients. Can I get each of the panel members to talk about that?

Mr. Gallup.

Mr. GALLUP. Yeah. It is a great question.

What we see a lot of is a focus on the past. I really liked the comment before where it said, what are you going to do in the next 5 or 10 years? We even think of this idea of telehealth. Telehealth has to be coordinated in a way, and that is kind of where we want to go 5 or 10 years from now, is, how do you coordinate all that, right? So you can have a telehealth visit, but you might need to get them somewhere. How do you get them somewhere? Transportation is an issue. So how do you make that in real time and make that all easy?

So what we are seeing more is, hey, we are so concerned about the past of meaningful use and all these pieces that are going on now, that we are kind of stuck in trying to get to that future. You know, we are talking about $60 billion in fraud. Well, we have a $200 billion in waste just from inefficiencies, at least, that has been documented.

So how do we make all that work together? Our centers are seeing that we can help in the rural communities: 3,000 more patients on average are getting access to care that weren't at the same price, right. We are starting to see a day of length of stay decrease in these hospitals, but also that affects everything else. It means they are going somewhere else.

And so, as we see it, you are right, which is how do we get out of this. We are talking about the fact that we had all this meaningful use stuff and we are stuck in it and we keep talking about how we should move to that next level. Mr. Black said, that we should start getting value from this. Let's start moving this forward. And these ideas of coordination and command centers that are bringing in telehealth, all the telemedicine pieces that are taking care of the rural communities.

In one of your areas in Texas, there is the greatest example of helping the rural communities and helping those hospitals that are small, working together with large hospitals that I have ever seen. It is amazing, and sometime, I would love to share it with you because there are many, many, many, many patients and beneficiaries in Texas who are getting access to care that they wouldn't have had by all this coordination.

Mr. MARCHANT. Thank you.

Mr. Short.

Mr. SHORT. I would just add, really moving to a place where we allow incentives to drive the innovations. Certainly, there are many capabilities that are coming to market that there are rules and there are regulations that make it challenging, especially when it comes to programs like Medicare.

What I would offer up is that because these are new, the rules aren't set yet, and we don't know necessarily how to think about how to approve new concepts that are coming to market. We have to ask ourselves those questions. We have to ask ourselves the questions on, how should we regulate them? How should we allow regulatory processes to put in place safeguards at the same time?

I think we have to rethink how we do that so that the innovations can get into the marketplace, and this is new ground.

Mr. MARCHANT. Mr. Black.

Mr. BLACK. We have 45,000 physician office practices, small group practices throughout the United States. One of the things that they are worried about today is the macrolegislation with respect to the reporting requirements that they are going to have on their end.

And what I would hope is that, as we pass this legislation and as we are monitoring and measuring the compliance with it, that we don't make the reporting burden such that a small group physician practice participant says: I am out of here. I am done. I am going to retire early. I don't want that to be the last straw, if you will, that broke the camel's back.

So great legislation, great capabilities, technologywise, et cetera, that are in that really will help suppose this digital layer better that is out there. But we also need to make sure, from a workflow standpoint, we don't add additional burden to that small physician office practice, who is already very, very stressed today to take care of the patients that they have and to do the important clinical reporting. But for a small office, that is a burden that we have to be very, very careful about the tipping point of asking too much from a regulatory standpoint for these folks to report.

In this country, there are a lot of independent farmers, there are a lot of independent physicians that are out there, and it is a noun and a verb, as we call say with regard to these guys. They are still

independent after, you know, the last 6 or 7 years. That is something they absolutely want to be. And I hate to have anything that we have collectively done force them to have to either quit the practice or I have to be employed by a large local organization, a large health system, or a large clinic practice if that is not really what I wanted to do.

Chairman TIBERI. Thank you.

The pride of Paterson, New Jersey, is recognized for 5 minutes, Mr. Pascrell.

Mr. PASCRELL. Thank you, Mr. Chairman.

Mr. Chairman, the panel is great, and thank you for putting us together.

Our healthcare system is undergoing a very fundamental shift right now by revolutionizing the way we pay for and the way we deliver health care. The Affordable Care Act laid the foundation for building a healthcare system that rewards quality outcomes and smart spending rather than the volume of services provided. And I am glad that the innovators are here today.

The next step is promoting what I would consider further integration of innovative technology into the healthcare system. Health and medical technology has evolved rapidly over the recent years, which has resulted in, I believe, an improvement of patient care. I believe we must think critically about how to force their technology in order to improve the patient's experience.

Mr. Short, one of your company's technologies, which you wrote about in your written testimony, the Caremerge tool, allows everyone in a patient's life, from the doctor to the insurer to the family member, to access information about the patient's care. Over the years, I have met with a lot of constituents, by the way, who have told me their stories about caring for family members and the hazards of it and the problems of it, challenges.

Can you briefly discuss some of the benefits that the technology your company has developed can have in supporting family caregivers—very important, there is more and more of them—in possibly making a very difficult job a little bit easier?

Mr. SHORT. Thank you. It is a great question.

And I would say on two fronts: You know, first, Congressman Blumenauer a few minutes ago talked about our palliative care, end-of-life work. One of the places that we acknowledge is that palliative care is best between family members and physicians.

So the first thing we did was we actually, through the Cambia Foundation, funded grants all around the country to delivery systems to actually rethink about the holistic end-to-end care, including how you bring family members into that process. It eliminates confusion. It eliminates waste. And it allows you to focus on outcomes.

So we have done that through our grants. It is something that we are several years into now and it is working very well. At the same time, we recognize that capabilities, like Caremerge, are necessary so that, depending on where people live and where they work and where they call home, and family can be connected with the physicians.

So, in the case of Caremerge, we are actually working with acute-care facilities, who are working many times with frail situa-

tions and allowing everyone to be on a common page, if you will, about where a patient's or family member's care is currently at.

Mr. PASCRELL. One of the shortcomings of the Affordable Care Act was dealing with the acute care and everything extending from that. And we could have done a much better job. We tried, but it didn't work.

Mr. Long, in your testimony, you outlined a care model, ThedaCare, in using what couples team-based coordinated health care with additional support services in intensive case management for complex patients. That is not easy. I know that. That includes providing assistance with basic needs, as I understand it, like housing and life skills to manage stress, to manage anxiety, and addressing emotional support needs of caregivers, many times not even discussed.

So, in your experience, has helping connect patients with these types of resources, would you consider that a positive impact on what we are talking about here today?

Dr. LONG. Oh, thank you for the question.

Absolutely. As you mentioned though, it is resource-intensive, and I think that is where the challenge comes in, is, how do we support the resources to decentralize what has typically been central care coordination, central social workers, and actually putting them where these complex patients are in the healthcare system.

So we have had an incredible impact. And if you think about population health, I think of it, you know, as three concentric circles: We have our clinic. We have our specialty caregivers. And then we have the community at large. We are probably remiss in not taking advantage of all the community resources that actually can help our patients quite dramatically, so that is a fundamental thing that we are focusing on to help leverage being able to care for them.

Mr. PASCRELL. Thank you.

I yield, Mr. Chairman.

Chairman TIBERI. Thank you.

The gentlelady from Tennessee, Mrs. Black, is recognized for 5 minutes.

Mrs. BLACK OF TENNESSEE. Thank you, Mr. Chairman. I want to thank you for holding this very important meeting today, because it really does encapsulate the future of health care, the things that we are talking about here today. So many times we argue across the aisle, but I think this is one that we can all agree on that is the future of health care and that we need to get behind and make sure that we are listening to people like you that are out in the field and are so creative and innovative.

I want to say, Mr. Gallup, I am really excited about your TeleTracking because I am an emergency room nurse who would call the floor and say, "I have a patient ready for you," and they would say, "That bed is not ready yet." And you would call an hour later, and they would say, "That bed is still not ready yet." Boy, the thought that I could look on some screen and say, "Wait a minute, there is a green light there so I am bringing the patient to you," it is exciting.

I think, Mr. Chairman, we probably ought to take a road trip so we can see all this technology actually working, so I am all in for that.

One aspect, a major aspect of health IT that I have been particularly engaged in is the telehealth. And I know that Ms. Jenkins started to talk about that and worked very closely with one of my colleagues here on Ways and Means, Mr. Thompson, on this topic. Earlier this year, we introduced a comprehensive bipartisan, bicameral piece of legislation once again showing that this is an issue that both sides care about.

The bill, called CONNECT for Health Act, was endorsed by about 100 organizations from all over the spectrum in health care. It actually showed a study that was done by Avalere that you would actually save about $1.8 billion over 10 years if we were able to put this into place.

And, Mr. Short, you talked about how you wish that your grandfather would've had access to some of the kind of telehealth that would have given him more assurances. And having two parents that are 91 years old and seeing what kind of technology is there and available for them is exciting. But it has got a lot of barriers there.

And until this comprehensive bill actually is able to be passed, what I would like to ask of you all, in particular looking at remote patient monitoring, which is one that is really near and dear to my heart because I do have a rural district where I know this would really help—getting patients 45 minutes to an hour and a half to a facility is very, very difficult, on windy roads, especially, when they need to be seen several times a month or whatever by different practitioners. What I would like to have each of you talk about, until we can get to that point where we can pass comprehensive legislation, what are some of the small but constructive steps that we could take today to begin this process of putting in and expanding life-changing telehealth services?

And, Mr. Long, if I can start with you, since we seem to start at the other end, and just go down the aisle. And I know I don't have a lot of time left, so Mr. Long, briefly.

Dr. LONG. Yes, thank you.

Well, I think, as I mentioned both in my verbal and written testimony, the things aren't really that complicated that can get us a lot of leverage. So, whether it is the simple things like a low-cost e-visit to the very complex telestroke, it is all about keeping people where they are and not having to have them travel.

Interestingly, I found in some of our rural areas, though, one of our simple barriers is that people are still on dial-up Internet, and it was somewhat surprising to me that there are still pockets of our remote areas that don't have the luxury of the high-speed Internet. And I know there is some talk about, how can we change that?

Mrs. BLACK OF TENNESSEE. Yeah.

Dr. LONG. But I think the technology exists, and I think providers and patients are eager for it. So some of it is just kind of fixing some of those infrastructure——

Mrs. BLACK OF TENNESSEE. Get CMS to agree to pay for it.

Mr. Black.

Mr. BLACK. I think there has been a lot of discussion about telemedicine and the fact that people haven't been paying for it. I think a lot of innovators have bypassed the payment component. Obviously, folks to the left and to my right have actually figured out to way to do that.

And the dollars that people spend on a visit, whether it is a consumer or their practitioner, they quickly get passed the, "I have got to bring the patient in order to see them, in order to get paid," if, in fact, they are taking care of the patient in the way that they want or it is some sort of financial risk for them.

There are lots of different ways you can connect to these people. The wearable component as well is another thing we haven't talked about today. When you talk about remote patient monitoring, that is a big piece. You can connect that to the caregiver or some sort of central facility. There are a lot of clients that are out there that are doing that today in a hub-and-spoke environment.

I have got a brother who farms. I have got uncles who farm. I grew up in Iowa, so I know a fair amount about what it is like for people who don't want to get in a car, who are scared. They don't want to go to a big city. You know, when they get there, they are lost. You know, they don't like it.

And so I have been actually, just through the years of knowing what is out there in the marketplace, I also have been having some preliminary discussions about how about repurposing some of the room inside the ASCS office. There is one ASCS office in every single county in the entire country. They have broadband. They have got this. They have got that. And it is a familiar place.

People like the ASCS office because they know that is where people have historically given them money; they go for education, et cetera. And you could have a quick clinic, perhaps, there, and you might have a place where you could go plug in to get monitored or have your televisit at that facility if you don't have broadband at home. We are not going to get broadband in the entire country like we put the Rural Electricity Act in the 1930s. That is not going to happen for a while.

Mrs. BLACK OF TENNESSEE. Well, thank you.

And I know I have run out of time, so Mr. Short, Mr. Gallup, if you have other suggestions, would you just jot them down and send them back here to the committee? I certainly would appreciate that.

Great suggestion.

Mr. BLACK. Thank you.

Mrs. BLACK OF TENNESSEE. I yield back.

Chairman TIBERI. Thank you.

The gentleman from Minnesota, Mr. Paulsen, is recognized for 5 minutes.

Mr. PAULSEN. Thank you, Mr. Chairman, for holding this hearing. This has been a great panel, very interesting.

We talked earlier about and heard some comments about the legislature and Congress lagging behind innovation. It is interesting because a technology entrepreneur once said that innovation is the ability to challenge authority and break rules. And as a result, there is often this conflict between what government does and what

innovators do. Government, of course, makes rules, and innovators are all about breaking the rules to create something new.

And innovation, when it is happening in such a fast pace and rapid pace, if we are not paying attention, if government is not paying attention, when, where, and how this innovation is happening, we are missing out on the opportunities.

I will start with Mr. Short, but others may have comments—you know, just from a cost perspective and the challenges we have within Medicare where there are so many regulations, for instance, what can the Medicare program be doing to collaborate better with the private sector, for instance, to support better engagement, to have more superior results? Or vice versa, how can Medicare adopt what the private sector might be doing in this respect as well?

Mr. SHORT. It is a great question.

Medicare has the ability and is frequently a significant influencer of care practices that are adopted across this country. And so, to the extent Medicare in a rural setting allows for innovations, even on a pilot basis, to be launched, deployed, that then again we could come back to and say, "Well, how should we think about rules and regulations that would allow for the further adoption of those capabilities," could really ignite greater levels of innovation when it comes to, you know, creating access.

But most importantly, I think what we can continue to do, certainly with the amount of baby boomers who are aging into Medicare, certainly with cost challenges of Medicare, there is going to be tremendous institutional focus, whether it is about payers or providers or delivery systems.

I would just encourage all of us to remember at the end of every one of these institutions is the patient or the consumer. And every one of us in this room have a story that we face when it comes to a loved one, and a family, a friend. And so many times, if we would put ourselves in the shoes of understanding that situation, the innovation becomes bright, and it becomes clear on what needs to be done. And I would encourage us at each and every day to do that first and foremost, because good things come from that.

Mr. PAULSEN. Good. Any other comments off that?

Mr. BLACK. Although, Medicare, the payer, that everybody pays attention to, so you have the economic club, if you will. And I think that the innovation that has been attempted through many of the different—whether it is the Pioneer ACOs or those other structures have been set up over the course of the last 5 to 10 years—have been, I think, very influential in moving from a value-based or pay-for-performance or pay for quantity to pay-for-performance methodology.

We have got a lot of folks in Tennessee. The folks got together there to get 22,000 people to be part of their cohort. They have got one primary practice, 160 docs. Now they have 1,200 docs in the State of Tennessee that have got together through an interoperability platform, and they connect the information to take care of these 22,000 people in remote areas. And they are one of the top five in cost and one of the top 30 in quality in the State like Tennessee, where they have very little infrastructure in place.

So there is a lot of innovation that is out there. I think that the structure that has been set up by Medicare is very valuable, and

what has gone with CMS on the payment side has been incredibly influential in the innovation that has been spurred. And I would suggest that that rate of innovation and funding continues.

Mr. PAULSEN. And, Mr. Short, you commented earlier about chronic care. And I think, obviously, with the demographics as you mentioned, 10,000 baby boomers retiring every day, chronic care management and coordinated care is the solution or the answer we need to focus on if we are going to be able to redirect dollars in a more cost-effective manner within Medicare.

And, Mr. Short, you said let incentives drive innovation. And obviously, piloting, letting Medicare pilot things is a good way to do so. Is there anything else that we can do to actually incentivize innovation in the market?

Mr. SHORT. I think there is always a lot to be thought of around innovation. I would say, top of mind, when you think about payment reforms that have passed to date and what is to come of that, I think continuing to see those through when it comes to how payers and providers collectively pay for service, I would say, looking over the next 2 to 3 years—we talked about ACOs earlier today, in terms of how they perform and what is working, what is not working—many times we will run on to the next innovation before we complete a current one. And I would say see through the current innovations as well in making sure that we deploy and scale some of them. Because many of these have the ability to be scaled, especially as my colleague, Mr. Black, talks about the interoperability. I think there are tremendous innovations on interoperability to come in terms of chronic care management across the population.

Mr. PAULSEN. Thank you, Mr. Chairman. I yield back.

Chairman TIBERI. Thank you.

And last but not least, the pride of Butler, Pennsylvania, Mr. Kelly, is recognized for 5 minutes.

Mr. KELLY. Thank you, Mr. Chairman.

I want to thank all of you for being here today.

I think it is interesting. When I first ran for office I was really trying to champion what we do in the private sector. And I had people constantly tell me: You know your problem, Kelly, is you don't get it. Look, the government can't be run the way the private sector is run.

And I have said: No, it is just the opposite. That is the antithesis. The private sector can't possibly be run the way a government does.

There is a handout. I think, Mr. Gallup, you provided it. Here is where the rubber meets the road: It is not about the money that we spend; it is about the money we spend that is used inefficiently and ineffectively.

So, if you could, just kind of walk us through this, because I really don't understand how people can indulge in deficit spending, not year after year but decade after decade, and build a long-term debt that we know is going to sink our country, and say: You know, the problem is we are just not extracting enough money from hard-working American taxpayers. These people are going to have to cough up more money to support our inefficiencies.

I think this is really stunning, and this really gets to the thing. Listen, is it about policy? Yes. But more importantly, it is about people. It is about people.

Mr. Short, your grandfather, my father-in-law, this didn't have to happen. You know, it wasn't because they weren't spending money. It is because they were ineffective and inefficient, something we can't tolerate in the private sector. Well, you can, but you can't do it long because you go broke.

Mr. Gallup, when I look at this, this is incredible. The United States of America—now, Pat, listen to this—out of 51 countries, the United States of America ranks 44th out of 51, and we have really worked hard. We have been able to beat Bulgaria, who is number 45, and we are just about catching up with the Dominican Republic at 43.

And it is hard for me to sit here and look at who we are and what we have been and how we have led the world in everything. Gosh, we can put a guy on the moon, but we can't get him through the emergency room. We can invent the Internet, but we can't get people through the hospital system. What the heck is wrong with us?

But look at the spending. It isn't for lack of investment. Mr. Gallup, kind of walk us through this, because this is stunning, and it is also damning. It will ruin this country. If you can. This is incredible.

Mr. GALLUP. I think you just did a great job of it. I mean, I think the best thing I would do is quote our clients, right. They know what is going on. And I think even the last Medicare question is very interesting where, what should we do about innovation? We shouldn't penalize people for coming up with innovations, right, number one. So if someone figures out how to do something better, the first thing we are going to do is cut, right, and that kind of scares people.

But as we quote our clients, they will tell you the money is in the system, right. They will say that. It is exactly what you are saying. There is enough money in the system to get the patients through and give them the care that they need if we cut out the inefficiencies.

To your point, we know that the CBO says 41 percent of the future of our hospitals are going to be running in the red. Why? Is it the funding issue? Or is it the fact that we don't have the right models in place, that we don't have the right efficiencies put in place, and we haven't decreased the cost of an adjusted discharge, right? We have enough.

And I think Chairman Tiberi saw this, right. There are enough bricks and mortars. There is enough out there to be able to go and do this. This isn't about cutting resources. You know, we have a doctor shortage. We have a nurse shortage. We have all these shortages out there. How do we fix that? Well, let's get them more productive.

Every study you see out there, a nurse is 30 percent productive. The other 30 percent we have got them stuck documenting. The other 30 percent they are out there trying to—and I know that isn't at 100, so it is 33, 33. But the point being is they are out there finding stuff, wasting their time.

So, if we can take labor and help them become more productive, we can help doctors become more productive and not doing things they don't want to do, we then get more patients through at the same price. And that is what we have proven to NHS. That is what we have proved that many clients will stand up and say this is working for them.

We are seeing thousands of more patients not just in the clinics, not just in the hospitals but in the clinics also. And that is what is going to cut the cost, right. If we can get more through at the same price, we have solved a lot of our problems.

Mr. KELLY. Anybody else? Because you all have the answers. You have the answers. It is just, are we listening, and can we come up with a legislative fix to it? And I am saying, we have to do it, or we bankrupt our Nation.

Dr. LONG. Mr. Kelly, I am not sure if I am allowed to say "hallelujah," but I am thinking it with your comments. But I think if you piece together all the great work that many organizations like these folks represent, I think the roadmap is out there. We all see the waste. We are all trying to improve it.

My impression, even if you look at what the Pioneer has done, it is trying to look at where everybody is delivering care and try to do something that will work equally for everybody, and that is where you probably leave out those that are doing the best work and not trying to figure out how they could help create the roadmap that really needs to be the long-term blue sky.

So I think the information is out there if we can piece it together with folks like that are at this table. You know, I don't think it would be that hard to do. But I appreciate your comments.

Mr. KELLY. Well, I can't tell you how much I appreciate your being here.

And, Mr. Short, we are going to run out of time. But let me just say this to you: It is only over when we decide it is over. It is our ability to stick to the message and stick on course and make sure that we fight this to the very end. This is a win for every single American. It does not matter to me how they are registered, by the way. We can win this battle. The big thing is we just have to refuse to lose. We can win, and we can win for every single American.

Thank you all for being here.

Mr. Chairman, thank you so much.

Chairman TIBERI. Mr. Kelly, would you like to submit those statistics for the record?

Mr. KELLY. Yes, I would love to submit them for the record. Thank you.

Chairman TIBERI. Without objection.

Thank you, Mr. Kelly.

I want to thank the four of you today for spending some time with us. To just piggyback on what Mr. Kelly said, you give us hope. You give me hope. These are such important issues. And innovation is a key, I think, to solving this problem, and you guys are the forefront of that. We have only begun to touch these issues, and we are going to dig deeper into these issues in the future, and I hope you stay in touch with us as we do that.

Before we adjourn, not knowing exactly what the calendar looks like the rest of the year—and I am not in the prediction business—

and not knowing then if we might have another hearing or not, I want to take this opportunity to thank Dr. McDermott for, yes, your distinguished service to this Congress over the years, 14 terms to be exact. It has truly been—underline, bold—an adventure working with you.

I hope that, as you leave this body, that you believe that our disagreements—and there have been many—are heartfelt. I believe that your views are heartfelt, sir. And I also wish you the very best in your next steps.

You may.

Mr. MCDERMOTT. Mr. Chairman, I didn't know this was my swan song.

Chairman TIBERI. It may not be. There may be another one.

Mr. MCDERMOTT. I know sometimes you hope it would be my swan song, but it has been a pleasure serving on this committee. When I came to Congress 28 years ago, I made up my mind I was going one place, which was to the Health Subcommittee, the Ways and Means Committee. It took me a while to get there, and then it took me a while to get next to you.

But I believe that this area is such a large part of our economy as well as such a large part of our question of national security and how we take care of Americans that it is central to making decisions that affect every single American.

Leaving the Congress, I don't leave eagerly or glad to get away from it or anything else. I am sorry I am not going to stay because the development that we are talking about here today is going to go on and on, and it is going faster and faster.

When I went to medical school and graduated in 1963, the only thing that was left was anatomy. And even that has been changed by now. They are changing so many body parts that it is hardly the medical school I went to. But this committee has the potential of doing more good for the American people than perhaps any other single subcommittee in the Congress.

Chairman TIBERI. We agree.

Mr. MCDERMOTT. It has been a pleasure to serve here with you, even though sometimes you are wrong.

Chairman TIBERI. I will let that go.

Please be advised that members will have 2 weeks to submit written questions to be answered later in writing. Those questions and your answers will be made part of our formal hearing, as is your testimony. Thank you.

With that, the subcommittee stands adjourned.

[Whereupon, at 11:57 p.m., the subcommittee was adjourned.]

[Questions for the record follow:]

Allscripts™

Questions for the Record following the Ways & Means Committee Health Subcommittee hearing on innovation and efficiency in healthcare

From Representative Price of Georgia:

You mentioned in your response to a Member question that patients should own their data. **Is there any action Congress should consider to facilitate both provider and patient access to data, to ensure there's true interoperability to properly allow for a successful flow of data?**

Thank you for the question. This is an important topic, as central to our philosophy is the commitment to ensuring patients have access to their data, as well as those providers caring for them.

First, we'd suggest that the passage of the MACRA and the promulgation of the Quality Payment Program rules are steps that have already been taken to drive a positive effect in this area. It will likely take several years, but ultimately we expect that the continued uptake of advanced payment models by more physicians and healthcare organizations will in turn drive greater patient engagement and a rethinking of the provider's data stewardship responsibility. Already, many of the advanced alternative payment models under the QPP framework require further collaboration with and solicitation of data from patients more than traditional fee for service models, and this will certainly grow as additional models are rolled out with a greater scope of clinicians finding paths to participate.

One note: we have seen a dramatic uptake of our patient portal solution, FollowMyHealth, as well as the mobile applications that have been developed under the umbrella of the Allscripts Developer Program in recent years, and this will likely continue as the market evolves in response to the Quality Payment Program. However, we are concerned by recent steps taken by ONC to expand their jurisdiction and oversight responsibilities to include a much wider variety of technologies than those that fall under the certification program. We believe that Congress should act to stop ONC's proposed Enhanced Oversight rule, which just finished review at OMB, because we it could throttle innovation in the important areas of patient engagement and application programming interface (API) work. This regulation would affect not only companies like Allscripts who offer certified EHRs but also developers without certified products who are partnering with us to improve interoperability. Given that the rule stretches ONC's regulatory authority well beyond the scope intended by Congressional authorizers, we urge language in the must-pass budget to revise or halt implementation of this burdensome rule.

A final suggestion as to how to increase patients' ownership of their health data is to provide additional incentive to patients themselves to care more about not only their data but their health status more generally. One thing that the industry as a whole discusses regularly is that even when the technology is available, patients – a majority of the time – do not take advantage of the opportunity to review their data, check test results, share their information with other clinicians who are caring for them or generally maximize the opportunity to connect that data to their own health experience. Healthcare professionals who we work with would like to see that change because patients who are committed to improving their outcomes in turn will benefit the doctors in the pay-for-value environment. Congress could take steps to encourage CMS, in their role as the largest payer in the nation, to implement policies that directly entice patients to use technology to improve their health status.

From Representative Price of Georgia:

1. TeleTracking emphasizes the need for substantial improvements in patient flow. **Where have you identified patient flow challenges, and how can these challenges be addressed by patients, providers, and policymakers?**

Patient flow is about connecting patients with the right care, when they need it. Patient flow issues exist in every type of healthcare setting when some barrier or processes impedes a patient's ability to access the care they need. Regardless of whether the care setting is a VA hospital, academic medical center, outpatient, or other inpatient facility, patient flow issues exist. Wherever patients wait for care or are sent from one location to the next, or one provider to the next, patient flow problems may be present.

Some of the most common examples of patient flow challenges can be seen in the amount of time patients spend in emergency departments waiting to see a care provider or in the long lists of patients waiting to receive care from the VA. Inefficient processes and lack of visibility at the site of care cause backups which create boarding situations, ambulance diversions, increased lengths of stay, decreased patient and employee satisfaction, compromised patient safety and care quality, and financial losses for care providers. These backups also prevent the next set of patients from being seen by emergency room physicians. The lack of tools to create visibility into patient movement and needs across the care continuum hinders care teams' ability to work together to help make sure patients move safely and effectively through their episodes of care.

*Patient flow issues are compounded when a lack of access or education leads patients to seek care in suboptimal settings. For example, a 2013 literature review estimated that somewhere around 30% of emergency department visits were non-urgent, meaning the patient should have gone through a different channel to receive care.[1] There is an opportunity to educate **patients** on the right place to receive care during any urgent event and speaks to the need for better patient access to the right care, at the right time, in locations that work for the community.*

The cost of equivalent treatment received in urgent care centers is 300%-700% less than care received in emergency departments. In spite of potential cost savings, patients continue to seek care in emergency departments for their non-urgent care needs. The patient experience then becomes suboptimal and may add to patient flow problems and emergency department overcrowding. Education and tools designed for the patient can change their decision-making and help the system as a whole.

*For **providers**, patient flow should be a primary focus of their operations. Efficient patient flow allows hospitals and other providers to achieve their financial, clinical, and community objectives by increasing access and care quality while reducing costs. Providers can address*

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[1] Uscher-Pines, L., Pines, J., Kellermann, A., Gillen, E., & Mehrotra, A. (2013). Deciding to visit the emergency department for non-urgent conditions: a systematic review of the literature. *The American journal of managed care*, *19*(1), 47.

patient flow challenges by investing in the process improvement and enabling technology that supports better human processes.

*Without process management and visibility, **care providers** spend unnecessary hours trying to track patients down, make sure patients move into the appropriate clinical unit for their particular needs, and move to and from their procedures or appointments safely and efficiently. In our written testimony we outline some of the ways patient flow technologies help support a frictionless patient and care giver experiences by increasing access, visibility, and care team communication. Each stakeholder group has a role to play in helping to achieve substantial improvements in patient flow.*

***Policymakers** have the ability to advance the patient flow discussion, tackle the operational inefficiencies or waste in health care, and encourage providers to make the necessary process changes. The current opportunity is to create the next conversation. TeleTracking is more than willing to work with any subcommittee member or association in that effort; we are available to help support research initiatives, share information, and provide thought leadership in patient flow.*

2. An Annals of Internal Medicine Survey published September 6th, 2016, found that for every hour doctors spend seeing patients, they spend almost two additional hours on paperwork. **How are your companies helping to reduce this onerous burden which doctors face so that they can see more patients?**

By streamlining communication and patient flow, TeleTracking gives doctors and nurses more time to spend with patients.

TeleTracking's patient flow platform reduces the amount of time doctors and nurses spend on the phone, chasing down colleagues, and physically transporting patients. More specifically, our platform reduces the amount of time doctors, nurses, and other care providers waste arriving at a bedside when the patient is not in his room, doing redundant work, completing tasks for which others are responsible, coordinating care for the patient across a care team, and managing the movement of the patient through the hospital. By creating visibility, we reduce the amount of time doctors and nurses spend doing detective work to find patients; find beds for patients; and identify who to call for consultations, transfers, and other administrative tasks.

Patient flow platforms streamline communications. These communications replace and simplify workflows that are already happening without creating any redundant documentation. One recent study conducted by an independent research institute found that inefficient communication during patient admissions, patient transfers, and emergency response workflows alone costs the US healthcare industry $1B a year (just under $2MM a year per

hospital).[2] This dollar figure represents valuable hours of patient time that technologies like TeleTracking can give back to care givers.

3. **What progress are you making in designing and creating systems, including EHRs, to help doctors succeed as we transition to reimbursement under the Quality Payment Program established by MACRA?**

TeleTracking's patient flow platform is designed to help hospitals and health systems operate more efficiently. While provider reimbursements based on MIPS and APMs are not directly impacted by our solutions, the process efficiencies gained from our platform help to support the transition to the new reimbursement structures. Our solutions help to increase the number of patients doctors can treat within reporting periods, reduce the risk of readmission due to hospital acquired infection via decreased lengths of stay, and reduce facility overhead costs (especially important for physician owned hospitals or surgical centers).

Because our products provide increased visibility across a continuum of care, they serve an important role in helping to support team based care and connectivity. Primary providers can more easily consult with other physicians, coordinate the transfer of patients to acute care facilities, and track when patients are discharged and ready for follow-up appointments. Patient flow platforms help support innovative care models like Accountable Care Organization and Patient Centered Medical Homes by helping care teams manage and coordinate the movement of patients through episodes of care. For example, our platform helps to streamline and automate communication with community care teams—specifically related to transferring patients to new facilities, submitting direct admit requests, consulting with on-call physicians in other facilities, and creating visibility into patient care milestones after the patient is admitted.

4. **In your estimation, what is the difference between the efforts you are undertaking to improve healthcare and efforts being undertaken by CMMI? Do you feel as if you've had a good working relationship with CMS and CMMI to succeed and help providers succeed? What are the largest regulatory road blocks that currently exist?**

Our aim is to improve access to quality care for all patients. Through our patient flow solutions, we help providers streamline processes allowing them to reduce costs and deliver better care to patients. TeleTracking and CMS are working towards common goals from different, though related, directions.

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[2] Ponemon Institute (2014) "The Imprivata Report on the Economic Impact of Inefficient Communications in Healthcare" Available: http://www.ponemon.org/local/upload/file/2014%20Imprivata%20Report%20FINAL%203.pdf

While our relationship with CMS is positive, we have not yet had as much opportunity to engage as we would like. We believe that, to date, CMS's quality and safety focus has been positive but missed the effectiveness and efficiency of care gains that a patient flow focus affords.

Our work dovetails nicely. And, there is an opportunity for us to work with CMMI in defining what new innovation models might look like that speed the adoption of best practices with respect to operational efficiency. Additionally, we recently supported Carilion Clinic in the submission of an innovative practices application to CMS' Strategic Innovation Engine (SIE) based on its call for proposals related to streamlining patient flow.

The SIE proposal (Creating Efficient Access to the Right Care for a Community of 1M Virginian residents) highlights one of our innovative best practices in patient flow: creating a centralized transfer center and patient flow "command center." This best practice facilitates efficient entry of patients into a health system; allows teams to coordinate the safest, most appropriate transport of patients; and allows health systems to efficiently manage all hospital throughput needs for that individual hospital or system of hospitals.

The largest regulatory roadblock our country faces is that legislation to date focuses primarily on the quality and safety aspect of patient care. Conversations about the effectiveness and efficiency of care are newer. More recognition of the efficiency and quality gains that can be achieved through streamlined hospital operations will help us reach the cost and quality goals set forward by CMS and Congress. A lack of metrics related to patient flow deemphasizes or ignores the billions of dollars and increased access that an operational focus will make available in the health care system. By promoting a standardized approach to patient care and appropriate process metrics, patient flow will help the health care system increase access while meeting its cost and quality goals.

[Submissions for the record follow:]

SUCCESS IN ACTION

7 HOSPITALS
1,100 BEDS
44 AMBULANCES
3 HELICOPTERS

TAKING COMMAND

How a single command center introduces system-wide patient flow efficiencies.

Melanie Morris, senior director, Carilion Clinic Transfer & Communications Center (CTaC), in Roanoke, VA, recently had a peer-reviewed article published in Nursing Administration Quarterly *on the topic of designing a state-of-the-art mission control center. Melanie played an instrumental role in creating the centralized transfer and communications center at Carilion Clinic that allows for the seamless entry of patients into the health system, coordination of the safest, most appropriate transport of patients and the most efficient throughput as they receive care during their stay.*

The CTaC is built on a strong operational foundation that includes a large, open physical space to facilitate collaboration. Its state-of-the-art technology includes TeleTracking's patient flow software, which provides real-time capacity updates. This operations center also plays a central role in emergency operations and disaster management logistics at the local and regional level.

We had the chance to sit down with Melanie to gain her insights on everything from building consensus to the power of data and how it is best applied in practice.

Q Could you share your background and how you got involved in transfer center operations?

A I've been an RN for more than 21 years. I started my career working as a flight nurse and then transitioned into a marketing/business development role in Carilion Clinic's transportation department.

A few years ago, Carilion decided to re-evaluate how transfers came into the system. I became involved in the task force because in my business development role, I was on the front lines talking to customers, so I knew what we were doing well and where there were opportunities for improvement.

The decision was made to move the transfer center under the emergency services wing of the hospital, and I was appointed to manage the center because I was familiar with both the transfer hospitals in the area and our own internal operations.

When we started the planning process, we brought an EMS mind set– establishing clear protocols and consistent processes. This algorithmic approach is helpful because people like knowing what to expect.

Once we established the work flows, we needed to design the physical space and determined that it made sense to put EMS dispatch and transfer center nurses in the same room — it just simplified things to have these two groups in the same place.

And that was just the first part of the puzzle — we also needed dispatchers to help get the discharges out and the new patients in beds. So we established processes that allowed for better prioritization and a more natural progression.

We're proud that three years later, our center is being recognized for its best practices.

Q Prior to CTaC operations development, what were the main barriers to patient access and throughput at Carilion?

A First of all, from a transfer perspective, we quite simply had more people than beds. We needed to address the length of stay issues and part of that involved determining what services could be administered on an outpatient basis versus an inpatient basis.

We owe it to our patients to make sure we're maximizing efficiencies. Previously, there were a lot of different portals into the system, and when a hospital is running at 95-98% capacity that can be

Carilion Clinic's Transfer and Communications Center, Roanoke, VA. The command center in action — keeping the the whole system flowing from a centralized information hub. For more visit: http://go.teletracking.com/pfq-ctac

dangerous — especially with time-sensitive medical issues.

When we moved to a TeleTracking system that was simplified and centralized, people knew what to expect and knew how to facilitate things so that the right patients were sent to the right facility — whether it was our main facility or one of our six community sites. The result was a 40% increase in transfer admissions to the secondary campus.

Q Who was involved in the design of the physical space of CTaC and the training/blending of employees to help ensure synergies with the new center?

A We were very, very blessed to get the physical space we did. We have a semi-circle layout in the space that used to be the hospital library that works perfectly from a collaboration standpoint. We worked with a wonderful space manager, as well as a project manager who helped us maximize the floor area, create good flow between the nurses and dispatchers, and allow for ample space for monitors and dashboards.

From the employee perspective, it was a big cultural change, so having open communication from the start was important. We brought everyone who was going to be involved to the table — we wanted to know what they liked, what we needed to work on and what was on their wish lists.

We also worked closely with everyone on training and making sure they were comfortable and compliant with the software systems.

And these efforts paid off. A really strong synergy was established in the department with both the EMS and nursing staffs feeling that they were part of the bigger picture and that the entire health system was operating as a cohesive unit.

Q How did you overcome implementation challenges?

A Once everyone saw firsthand the level and timeliness of data that the software provided, the fact that operational decisions could be made based on that data and used for future planning decisions, they embraced the new way of doing things.

Q How has the CTaC impacted physician satisfaction scores — both internal and external?

A The first step was having everyone get to some level of agreement on the new patient flow process. That way, everyone knew the rules and what to expect.

Now, the feedback we've received is that physicians love having a nurse facilitating every transfer and they also love the data that's available to them. And with all of this data, bed priorities and needs can be shuffled in order to ensure patients get to where they need to be. A lot of people have said they don't know how they did this before TeleTracking. The goal is to make things as seamless and full-service as possible. When someone gets off a transfer call, we don't want there to be any unanswered questions.

At the end of the day, it's all about helping providers so they can better focus on helping their patients.

Q How have different departments/clinics/facilities within and outside your healthcare system been engaged in the process?

A The emergency room and PACU are big players. We now also hold a daily operations huddle. Basically, the leaders of all the major departments meet for 30 minutes to review throughput and provide mutual feedback.

Q What are your next steps — what is on the horizon to further enhance your operating model?

A This year, we added a clinical transporter dispatcher and an EVS (environmental services) dispatcher to the transfer center. We're also working on integrating the hospital interpreters into TeleTracking's ServiceTracking application.

We're currently looking at how we can better utilize and integrate case management/social work. We're also looking at our emergency disaster procedures for ways of establishing greater integration.

Q How do you feel your overall quality of care has improved, especially in regard to the six dimensions outlined by the Institute of Medicine (healthcare must be safe, efficient, patient-centric, effective, timely and equitable)?

A We have definitely improved, especially regarding patient safety and efficiency.

We owe it to our patients to give them quick decisions and beds when they get here, since these can be life-or-death matters. We want to be sure the flow is occurring the way we need it to be, so that patients are moving in and out the way they should be.

STORY BY SUSAN MCLAUGHLIN

University Hospital is the flagship patient care facility of The Ohio State University Wexner Medical Center. It is a 300-bed hospital that is consistently recognized as one of "America's Best Hospitals" by U.S.News & World Report. In addition to being a Level I Trauma Center, the facility also provides one of the most advanced intensive care units in the area, including a Level III neonatal intensive care unit and a comprehensive burn center.

CHANGE FOR THE BETTER

OSU TEAMWORK GETS IT DONE

The Ohio State University Wexner Medical Center is one of the Midwest's highest ranked hospitals for safety and patient care, has led the region for 23 years in *U.S. News & World Report*'s "America's Best Hospitals" rankings, and is one of the most connected hospitals, according to *U.S. News*, for excellence in combining patient safety, patient engagement and clinical connectedness to improve patient care.

It takes a team-wide commitment to create the type of culture that generates such results over the long term. And it was their continuous pursuit of excellence that led the OSUMC IT and operations teams to decide to implement TeleTracking as an operational complement to their EPIC electronic medical records system.

Dr. Mark Moseley is an emergency room physician who served as Chief Operating Officer during the implementation and then as the project's executive sponsor. He became interested in the power of patient flow after seeing patients experience long wait times in the ED — or simply walking out without being seen.

> ***"IT'S HUMAN NATURE TO BE A LITTLE RESISTANT TO CHANGE.*** WHEN YOU'RE USED TO SOMETHING, YOU'RE COMFORTABLE AND IT BECOMES A SOURCE OF TRUTH."

DR. MARK G. MOSELEY, MD, MHA, FACEP
Vice Chair of Clinical Affairs & Associate Professor
The Ohio State University
Department of Emergency Medicine

"I went to medical school because I wanted to take care of patients", Moseley says. However, when I saw patients boarding in the ED — and how the back door to get the patients who were in the ED into the right beds in the hospital was broken — I became interested in patient flow and how that would open up the ED to the people who needed care. I knew there needed to be a technology piece if there was a belief in providing superior care."

This "technology piece" opens up the power of data, which can help with fixing operational challenges. To drive performance, though, the data needs to be easy to use, easy to understand and structured to define success.

"Big organizations thrive on analysis and use it for continuous improvement. Here at OSU, we're using it to fix incremental inconsistencies in care. By solving for these issues, we can help make sure, people aren't walking out because the wait is too long or that we're declining transfers because we don't have open beds," continues Moseley. "The goal is to make sure patients are in the right place for the right level of care, that a room is ready and that the process of patients moving through the system continues seamlessly. It's basically what good hotels do — and what has historically been a challenge for healthcare."

What can seem like an inconsequential delay in the patient flow process can be quite significant when viewed holistically. For example, if there are 10 to 15 minutes of dead bed time with each patient and 200 patients are discharged each day, that adds up to 33 to 50 hours when care isn't being provided. And that means an ambulance might have to be diverted or a transfer request from a partner declined.

Numbers like this make a clear and powerful business case for going beyond an electronic medical record and instead using a complementary operational system. Taking a patient flow strategy to the next level requires collaboration between IT, which is usually responsible for the electronic medical record, and the clinical teams.

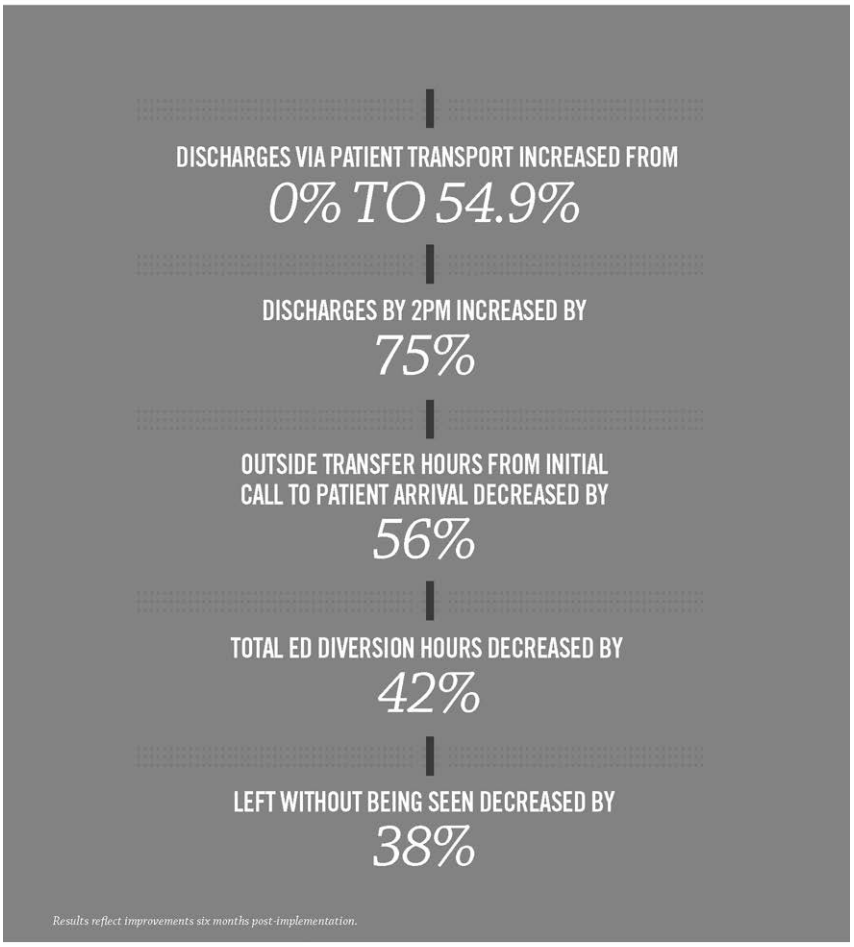
"It's human nature to be a little resistant to change. When you're used to something, you're comfortable and it becomes a source of truth," says Moseley. "To help make sure everyone at OSU was on board, we had an extensive due diligence process and looked at dozens of health systems and how they handled implementation. We determined that EPIC and TeleTracking are synergistic, we are able to use the best features of each system. And the bottom line is the patient doesn't care what we use. They just want to get through the system effectively. With TeleTracking, we're able to make that happen with the data that is available to us. We can tackle the inefficiencies and effectively deploy our assets."

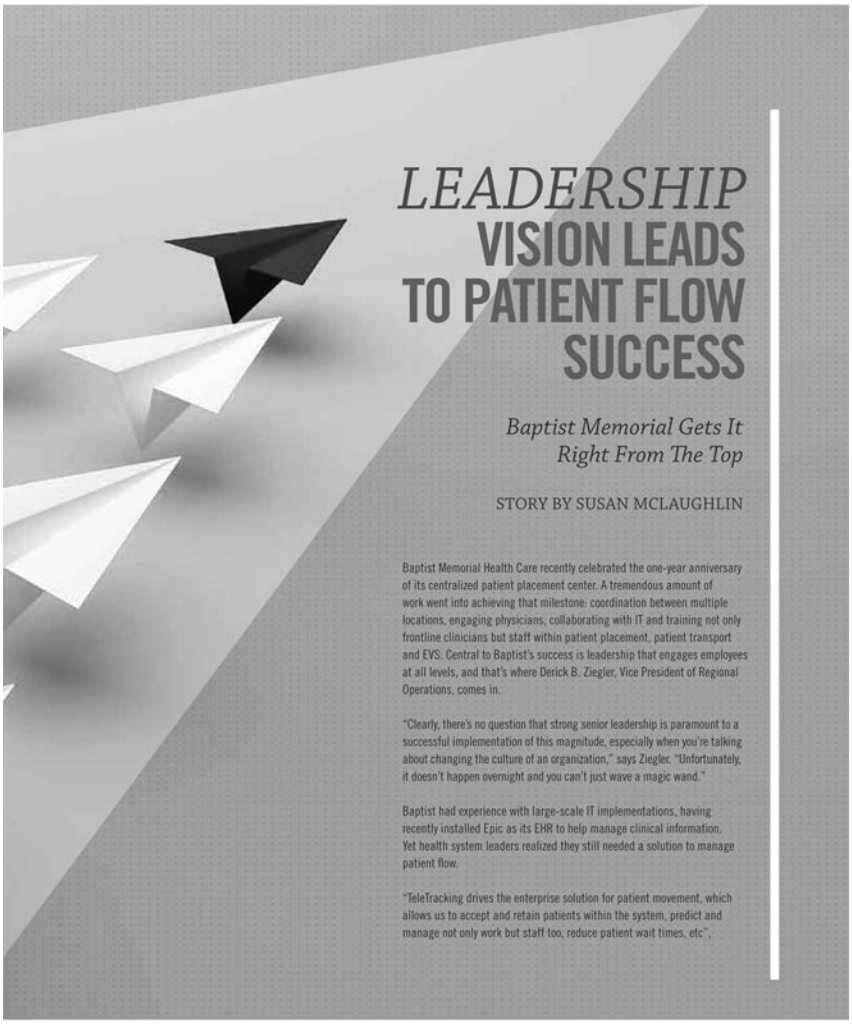
This is where it becomes critical to identify the right metrics to analyze, which in turn helps define success and leads to the development of best practices.

"That process can be a little overwhelming," adds Moseley. "We had to take a step back after our implementation and rethink the right questions to ask and the right metrics to focus on in order to derive the right value. We decided to place an emphasis on the percentage discharge time for physicians and transport times. We get the data weekly and share it with all the health system leaders. And if different units are seeing different results, we can give them the resources to create improvement."

With increasing pressure to maximize resources and minimize expenses, building on initial success is important. At the heart of it all, though, is finding ways to help the most patients in the most cost-effective manner.

"The key focus is functionality and what it accomplishes for the patient. One system can't care for patients the way we need to," concludes Moseley. "We want to continue to optimize the technology throughout the health system. When we are able to liberate capacity, we're able to care for more patients, move them to the level of care they need and treat them more effectively and efficiently."


DISCHARGES VIA PATIENT TRANSPORT INCREASED FROM
0% TO 54.9%
DISCHARGES BY 2PM INCREASED BY
75%
OUTSIDE TRANSFER HOURS FROM INITIAL CALL TO PATIENT ARRIVAL DECREASED BY
56%
TOTAL ED DIVERSION HOURS DECREASED BY
42%
LEFT WITHOUT BEING SEEN DECREASED BY
38%
Results reflect improvements six months post-implementation.



LEADERSHIP VISION LEADS TO PATIENT FLOW SUCCESS

Baptist Memorial Gets It Right From The Top

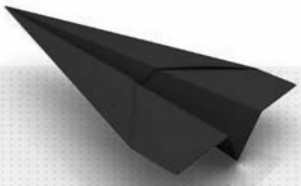
STORY BY SUSAN MCLAUGHLIN

Baptist Memorial Health Care recently celebrated the one-year anniversary of its centralized patient placement center. A tremendous amount of work went into achieving that milestone: coordination between multiple locations, engaging physicians, collaborating with IT and training not only frontline clinicians but staff within patient placement, patient transport and EVS. Central to Baptist's success is leadership that engages employees at all levels, and that's where Derick B. Ziegler, Vice President of Regional Operations, comes in.

"Clearly, there's no question that strong senior leadership is paramount to a successful implementation of this magnitude, especially when you're talking about changing the culture of an organization," says Ziegler. "Unfortunately, it doesn't happen overnight and you can't just wave a magic wand."

Baptist had experience with large-scale IT implementations, having recently installed Epic as its EHR to help manage clinical information. Yet health system leaders realized they still needed a solution to manage patient flow.

"TeleTracking drives the enterprise solution for patient movement, which allows us to accept and retain patients within the system, predict and manage not only work but staff too, reduce patient wait times, etc",



says Ziegler. "We had an aggressive timeline for our TeleTracking implementation, and the operational integration has gone well to date. We're looking forward to greater integration between Epic and TeleTracking when we upgrade in the fall. We believe this will further optimize the patient experience and elevate the transparency of real-time information for safe and effective patient flow."

The implementation process started with a strategic planning and goal-setting process headed by Baptist's CEO. One success factor was growing volume, both inpatient and outpatient, within the 14-hospital system and determining the tools that could be leveraged to make that happen. Senior leaders knew that they were not keeping patients within the Baptist system and in many cases were sending them to the competition.

"TeleTracking really lent itself to a partnership that aligned with our efforts in growing volume," continues Ziegler. "The senior leadership team then made sure the system, individual hospital and department goals aligned. There was active engagement from those at the top of the organization communicating to employees at all levels. Even now, the leadership team meets every 90 days to review the scorecard and help ensure that goals and objectives are aligned. And to further enhance the alignment, each hospital also has a supporting scorecard, as well as each department within each of our hospitals."

This alignment would not have been possible without strong physician engagement and support. In the case of Baptist, the leadership and advocacy of the medical director was critical. He was an established, practicing surgeon with 20 years of experience and had held leadership roles within Baptist. He went to all 14 hospitals and met with leadership because he understood how important it was to educate staff and explain the "why."

For example, the staff learned about how using the Bed Ahead feature within TeleTracking and reviewing the Processing Time Analysis report made it possible to manage operations in real time. Consequently, the staff learned how to be appropriately responsive.

Responsibility for improving patient flow went beyond the medical staff. EVS was the other area that played an important role in streamlining patient flow. EVS leadership was, and continues to be, at the table for all meetings, and the department is one of the top 10 performance measures that Baptist looks at regularly. Furthermore, members of the EVS department are able to see the direct link between what they're doing and how that rolls up to the hospital and overall system results.

"There is a lot of talk about management engagement, and that is important. However, what truly differentiates Baptist's success is the focus that is placed on the details, numbers and metrics," says Michael Gallup, TeleTracking's President. "When we started our collaboration, we advised Baptist to focus on a couple of key metrics and build from there. They have done an amazing job of doing that and continue to build on their initial success."

"Success goes beyond technology. It takes great technology, combined with the right processes and dedicated people," SAYS Ziegler.

The power of these three factors (technology, people and process) is exponentially magnified when combined with real-time data and how that data helps identify and solve challenges. For example, demand in the departments goes up and down on a minute-by-minute basis. Since data from the TeleTracking system is real-time, it can be used to manage the flow of patients so that departments can deliver on their goals and patients are provided with an optimal experience.

"With the reporting, we can forecast workloads and modify schedules accordingly, especially in EVS and Transport," continues Ziegler. "For example, in the past, the majority of our staff worked from 7AM-3PM. When we discovered that the highest number of admissions occurred between 3PM-11PM, we were able to make changes and better meet the needs of our patients."

Another report that is having an impact on patient experience and contributing to the "just say yes" cultural shift at Baptist is the daily distribution of the TransferCenter™ declination/cancel report. At 6AM, it goes to every member of the senior leadership team and clearly shows, by facility, if any referral patients were declined or cancelled.

"SUCCESS GOES BEYOND TECHNOLOGY. IT TAKES GREAT TECHNOLOGY, COMBINED WITH THE RIGHT PROCESSES AND DEDICATED PEOPLE," SAYS ZIEGLER.

"We want to get to the root cause of why we have transfers that we can't accept," says Ziegler. "This really pushes our CEOs. They have one day to do a deep dive and find out what happened so we can eliminate the barrier and accept the patient the next time. This has proven to be a very valuable tool, and the CEOs appreciate this level of detail. Previously, they weren't aware of the cancellations and the impact to the system's bottom line."

"It comes down to the fact that the results are amazing when it all comes together, with everyone actively engaged, buying into the overall goals and taking ownership for their part. That's how we're driving results and changing culture," concludes Ziegler.


ED BOARDING: LARGER EDS EXPERIENCED
25-50%
REDUCTION IN MONTHLY HOLD HOURS
OUTPATIENT REGISTRATIONS:
15%
INCREASE
ED DISCHARGE TIME:
5%
DECREASE IN TOTAL MINUTES
17%
INCREASE IN VOLUME
PATIENT PLACEMENT CENTER AVERAGES
1,500
PLACEMENTS (DIRECT ADMITS & TRANSFERS) PER MONTH
ED LENGTH OF STAY, DISCHARGE AND ADMIT TURNAROUND:
10%
DECREASE
BAPTIST MEMORIAL HOSPITAL-UNION CITY TRANSFERS:
PREVIOUSLY SENT 80% TO COMPETITORS; DECLINED TO
40% IN NINE MONTHS

DERICK B. ZIEGLER
Vice President of Regional Operations for Baptist Memorial Health Care Corporation

Ziegler joined BMHCC in August 2008 upon his retirement as a colonel in the United States Army, having served 23 years on active duty.

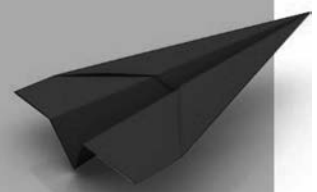
His initial positon at BMHCC was CEO and Administrator for Baptist Memorial Hospital - Union City, TN, a positon he held from August 2008 to July 2010. From August 2010 to June 2014, he served as CEO and Administrator for Baptist Memorial Hospital – Memphis, TN.

While in the Army, Ziegler served in a variety of senior health care administration roles in acute care and managed care settings, including: Chief Operating Officer for the Pacific Regional Medical Command and Administrator for Tripler Army Medical Center in Honolulu, HI; Administrator for Landstuhl Regional Medical Center, Landstuhl, Germany; Administrator for Martin Army Community Hospital, Fort Benning, GA; Director of Operations for TRICARE Latin America and Canada, Fort Gordon, GA; and Administrator at Kimbrough Army Community Hospital, Fort Meade, MD.

An "army brat," Ziegler has lived overseas in Korea, Germany and Guatemala, and in the United States in places such as Hawaii, Oklahoma, Kansas, California, Maryland, Texas and Georgia. Ziegler holds bachelor of science degrees in psychology and sociology from the University of Pittsburgh; a master of social work degree from the University of Pittsburgh; and a master of healthcare administration from Baylor University. He is a fellow in the American College of Healthcare Executives; a certified managed healthcare professional with America's Health Insurance Plans (AHIP); and a certified professional in the Academy for Healthcare Management.

BEST-IN-CLASS LEADERSHIP LEADS TO BEST-IN-CLASS PATIENT FLOW

- FOUNDED IN 1912
- 14 HOSPITALS ACROSS TENNESSEE, ARKANSAS AND MISSISSIPPI
- MORE THAN 2,300 BEDS SYSTEM-WIDE
- 350,000+ ANNUAL ED VISITS SYSTEM-WIDE
- IN 2015, THE JOINT COMMISSION NAMED BAPTIST-HUNTINGDON, BAPTIST-GOLDEN TRIANGLE, BAPTIST-MEMPHIS, BAPTIST-UNION CITY AND BAPTIST-UNION COUNTY AS TOP PERFORMERS ON KEY QUALITY MEASURES.
- IN 2014, BAPTIST MEMORIAL HOSPITAL-MEMPHIS WAS NAMED ONE OF *BECKER'S HOSPITAL REVIEW'S* "100 GREAT HOSPITALS IN AMERICA.



Healthcare Information and Management Systems Society
Statement for the Record
Hearing on "Exploring the Use of Technology and Innovation to Create Efficiencies and Higher Quality in Health Care"
Committee on Ways and Means Health Subcommittee
September 28, 2016

HIMSS is a global, cause-based, not-for-profit organization focused on better health through information technology (IT). In North America, HIMSS focuses on health IT thought leadership, education, market research, and media services. Founded in 1961, HIMSS North America encompasses more than 64,000 individuals, of which more than two-thirds work in healthcare provider, governmental, and not-for-profit organizations, plus over 640 corporations and 450 not-for-profit partner organizations, that share this cause.

HIMSS applauds the Ways & Means Health Subcommittee for exploring the important role technology can play in improving care delivery and health outcomes for America's Seniors. As the Subcommittee continues its examination of how technology can drive greater quality, efficiency and value in the Medicare program, we offer the following comments to inform your efforts.

Supporting Value and Innovations in Healthcare Delivery

Health IT helps to support improved quality and value by capturing data and supporting the decision-making needed to measure and improve performance, increase safety and efficiency and reduce costs. Since the implementation of the HITECH Act, rates of adoption of advanced EHR capabilities have increased significantly. A white paper published by HIMSS Analytics in 2014 highlights the relationship between advanced EMR capabilities and improved patient outcomes using data from the Centers for Medicare and Medicaid Services (CMS). One important finding of this was that hospitals with advanced health IT capabilities saw 6.5 percent fewer mortalities from heart attack than hospitals without these advanced capabilities.

In 2012, HIMSS launched the HIMSS Health IT Value Suite to capture valuable examples of the health sector's advancement in the use of IT. Since that time, the Value Suite has grown to contain thousands of examples connecting people, process, and technology to generate value derived from the use of health IT, including many related to chronic care management and care coordination across diverse care settings and geographic locations. As the next step in the process to measure the value of health IT adoption and use, HIMSS established the Value Score, which helps healthcare delivery organizations measure, and optimize, their return on health IT investments.

Adoption and utilization of interoperable health IT solutions, including EHRs, patient portals and other existing and emerging technologies can support innovative healthcare payment and delivery models that incentivize higher quality, help control costs and promote system sustainability. These models include value-based purchasing, shared savings/risk models, bundled payments and accountable care

organizations - all of which require an IT infrastructure. The Merit Based Incentive Payment System, established in the Medicare Access and CHIP Reauthorization Act of 2015, further cemented the interconnectivity between quality, cost and IT by including measures of each category in the new Medicare physician reimbursement calculation. Future Medicare payment and delivery reforms should reflect ways to incentivize use of interoperable IT and other technologies to support their policy goals.

Enhancing Care Coordination and Collaboration

Health IT is a critical enabler of better continuity of care (coordination and collaboration across multiple care settings and providers) for patients, ensuring that the right information follows the patient and their caregivers to inform better care decisions. Health IT provides a mechanism for patients and caregivers to have access to information and participate as active members of the care team. And, health IT provides an opportunity for patients to tell their story, outlining their goals and wishes, to ensure every member of the care team is informed.

Although there are many examples of health IT being used to facilitate coordinated, collaborative care, it is clear that challenges remain, including a lack of methods to track performance across settings and, in many cases, lack of interoperability among providers. Silos of health information result in silo'ed care delivery which, in turn, leads to inefficiencies, redundant services, higher cost and sub-optimal patient care outcomes.

Addressing barriers to effective continuity of care requires ongoing assessment of the effectiveness of the capabilities required to support it. To support this assessment process, HIMSS Analytics developed the Continuity of Care Maturity Model (CCMM). The CCMM model focuses on four key areas - effective health information exchange, coordinated patient care, advanced analytics and patient engagement. The CCMM model escalates the capabilities in each of these areas as providers progress, and is unique in its assessment of success in actually providing continuity of care across health settings. Policies that incentivize better continuity of care to improve quality and reduce costs should be accompanied by tools and methods that help providers gauge performance and identify improvement opportunities.

Expanding Access to Care

HIMSS believes that better utilization of telehealth technologies, including remote patient monitoring, is vital to improving care and value for Medicare patients, particularly those with chronic conditions. This patient population, in particular, requires active monitoring and regular touch points with providers. Telehealth can remove barriers to patients receiving the services they need (especially those in rural and underserved areas) and promotes more active participation in their care. This can lead to lower costs for beneficiaries, and for Medicare, as well as lead to greater patient satisfaction.

However, in order to fully leverage these benefits, outdated restrictions to telehealth deployment must be removed. Current Medicare restrictions contained in Section 1834(m) of the Social Security Act based on technology modalities (stipulation that telehealth requires real-time, interactive voice and video, no "store-and-forward" technologies), geographic location, and originating site requirements, among others, continue to inhibit access to new and innovative technologies. Policies should be enacted to encourage use of broader types of technologies that will expand access to high quality, cost-effective care for Medicare patients.

We look forward to working with you to identify opportunities to leverage technology to improve value, care delivery and health outcomes for patients.

September 28, 2016

The Honorable Pat Tiberi
Chairman, Ways and Means Subcommittee on Health
United States House of Representatives
1102 Longworth House Office Building
Washington, DC 20510

The Honorable Jim McDermott
Ranking Member, Ways and Means Subcommittee on Health
United States House of Representatives
1102 Longworth House Office Building
Washington, DC 20510

Dear Chairman Tiberi and Ranking Member McDermott:

The Alliance for Home Dialysis (Alliance) appreciates the opportunity to submit a statement to the House Ways and Means Subcommittee on Health on the hearing held September 14, 2016, "Exploring the Use of Technology and Innovation to Create Efficiencies and Higher Quality in Health Care."

The Alliance is a coalition of kidney dialysis stakeholders representing patients, clinicians, providers, and industry. We have come together to promote activities and policies to facilitate treatment choice in dialysis care, while addressing systemic barriers that limit access for patients and their families to the many benefits of home dialysis.

Today, more than 700,000 Americans are living with End Stage Renal Disease (ESRD)[1]. While the incidence of ESRD has declined slightly over the past decade, prevalent cases continue to rise due to a decline in mortality rates – resulting in an increased demand for dialysis services. The vast majority of ESRD patients, approximately 70%, depend on dialysis to replace kidney function[2].

Home dialysis—peritoneal dialysis (PD) and home hemodialysis (HHD)—is an important treatment option that offers patients significant quality of life advantages, including clinically meaningful improvements in physical and mental health. Those patients who are able to elect home modalities have shown improved clinical outcomes, including reduced cardiovascular death and hospitalization[3],[4] lower blood pressure[5], reduced use of antihypertensive agents[6], and reduced serum phosphorus, which can help prevent cardiovascular events[7]. Studies have also shown that patients have better mental health outcomes,

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[1] U.S. Renal Data System. ESRD Quarterly Update – July 2016. Available online www.usrds.org.

[2] The Medicare Payment Advisory Commission. Report to the Congress: Medicare Payment Policy, Chapter 6, "Outpatient Dialysis Services". Washington, DC: MedPAC, March, 2016. Web.

[3] Weinhandl ED, Liu J, Gilbertson DT, Arneson TJ, Collins AJ: Survival in daily home hemodialysis and matched thrice-weekly in-center hemodialysis patients. J. Am. Soc. Nephrol JASN 23: 895-904, 2012.

[4] Weindhandl ED, Nieman KM, Gilbertston DT, Collins AJ: Hospitalization in daily home hemodialysis and matched thrice-weekly in-center hemodialysis patients. Am. J. Kidney Dis. Office. J, Natl Kidney Found. 65: 98-108, 2015.

[5] Kotanko P, Garg AX, Depner T, et al. Effects of frequent hemodialysis on blood pressure: Results from the randomized frequent hemodialysis network trials. Hemodial Int. Int. Symp. Home Hemodial. 19: 386-401, 2015.

[6] Jaber BL, Collins AJ, Finkelstein FO, Glickman JD, Hull AR, Kraus MA, McCarthy J, Miller BW, Spry LA.; FREEDOM Study Group: Daily hemodialysis (DHD) reduces the need for anti-hypertensive medications [Abstract] J Am Soc Nephrol 20: SA-PO2461, 2009.

[7] FHN Trial Group, et al: In-center hemodialysis six times per week versus three times per week. N. Engl J Med, 363:

including social function, which is vitally important for overall well-being[8].

Despite increases in recent years, still only 11.5% of U.S. dialysis patients receive treatment at home[9]. However, Congress has long realized the advantages offered by home dialysis; its stated intent in the creation of the ESRD benefit was that "the maximum practicable number of patients who are medically, socially, and psychologically suitable candidates for home dialysis or transplantation should be so treated."[10]

The Alliance believes that evolving technology has the potential to increase access to dialyzing at home. Specifically, we support expanding access to telehealth services for home dialysis patients by providing a framework for safe, reliable patient/practitioner interaction.

Dr. Eric Wallace, an assistant professor in the Division of Nephrology and director of the University of Alabama at Birmingham Peritoneal Dialysis Program, is conducting a three-year telemedicine trial for peritoneal dialysis patients. The pilot is assessing the feasibility of the use of telemedicine and remote monitoring as a substitute for two out of 3 monthly face-to-face visits over a 6 month period. Dr. Wallace believes telemedicine is especially important for home dialysis patients because it can result in "improved access to care … [and] improved quality of life; this may improve outcomes as there would be less tendency to miss monthly visits, so it might lead to more medical oversight."[11]

The Alliance agrees with Dr. Wallace's views and below are suggestions which will allow more dialysis patients to take advantage of telemedicine.

Congress should designate the patient's home and dialysis facility as originating sites for telehealth and remove geographic restrictions

Currently, several Medicare policies serve as a barrier to realizing the full potential of telehealth and remote monitoring and management services for home dialysis patients. For instance, current law designates "originating sites" where a patient must be located when using telehealth. Because a patient's home or dialysis facility is not designated as an originating site, patients must travel to a qualifying site, such as a hospital, in order to visit with a provider via telehealth. Congress should include the patient's home and any licensed dialysis facility as originating sites.

Furthermore, originating sites must be located in a rural Health Professional Shortage Area, a county outside a Metropolitan Statistical Area, or to be part of a federal telemedicine demonstration project[12]. Home dialysis patients in rural and urban communities alike can benefit from access to telehealth. Therefore, once designated as an originating site, the patient's home or dialysis facility should not be subject to geographic restriction.

CMS should allow providers and patients to conduct monthly visits via telehealth if both parties agree that it is in the patient's best interest

Permitting patients and their physicians the option to conduct monthly evaluation and assessment visits

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2287-2300, 2010.

[8] Finkelstein FO, Schiller B, Daoui R et al: At-home short daily hemodialysis improves the long-term health-related quality of life. Kidney Int. 82: 561-569, 2012.

[9] U S Renal Data System 2015 Annual Data Report: www.usrds.org/2015/download/vol2_USRDS_ESRD_15.pdf

[10] Section 1881(c)(6) of the Social Security Act.

[11] Zumoff, Rebecca. "An inside look at the UAB home dialysis telemedicine pilot." Nephrology News & Issues. 2016 August http://www.nephrologynews.com/inside-look-uab-home-dialysis-telemedicine-pilot/

[12] Centers for Medicare and Medicaid Services, "Telehealth Services – Rural Health Fact Sheet Series". Available at http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/telehealthsrvcsfctsht.pdf

via telehealth – with in-person visits at least quarterly (every three calendar months) — may incentivize patients to adopt home dialysis as a treatment option, and could benefit those currently on home dialysis. Such telehealth interactions are appropriate when they 1) include a video interaction, 2) are supported by the transmission of clinical data that facilitates physician review and evaluation of patient treatment, and 3) are compliant with federal and state laws protecting privacy of patient health information. A telehealth visit with a physician would be conducted according to facility standards for regular patient consultation and monitoring, and such a visit should not preclude a patient from seeing their dialysis facility-based interdisciplinary team face to face to address emergent issues.

Congress, CMS and the FDA should consider opportunities to evaluate and advance remote patient monitoring and other store-and-forward technologies in telehealth coverage

These technologies, which are presently excluded from the definition of telehealth services, may enable physicians and providers to monitor a patient's home dialysis treatment, track vital signs, and help promote proper adherence to dialysis. We encourage federal stakeholders to evaluate whether reimbursing physicians and other health professionals to conduct remote patient monitoring in addition to other permitted telehealth services can increase patient safety, facilitate earlier and lower-cost interventions, and reduce hospitalizations.

Congress should encourage telehealth by clarifying that technology platforms are not an improper inducement

As lawmakers consider approaches to encouraging the deployment of telehealth and remote patient monitoring technologies, Congress should clarify that the use of technology by patients and provision of technology platforms to enable such interaction in concert with their providers is essential to the success of this effort and is in no way an improper inducement under federal anti-kickback laws.

The Alliance is appreciative and supportive of two legislative initiatives, the *CONNECT for Health Act* and the *Medicare Telehealth Parity Act*, both of which originate in the Ways and Means Committee. The *CONNECT Act for Health Act*, HR 4442, was introduced by Congressman Diane Black (R-TN); the *Medicare Telehealth Parity Act*, HR 2948, was introduced by Congressman Mike Thompson (D-CA).

The *Medicare Telehealth Parity Act* authorizes a patient's home and dialysis facility as originating sites for the specific purpose of enabling monthly clinical visit to be conducted via videoconference. The legislation provides an important safeguard of one in-person visit with a clinician at least quarterly. The *CONNECT for Health Act* authorizes the dialysis facility for these purposes. Furthermore, the *CONNECT for Health Act* would clarify that the provision of telehealth or RPM technologies made under Medicare by a health care provider for the purpose of furnishing these services is not considered "remuneration," and therefore not an improper inducement.

We greatly appreciate the opportunity to provide this feedback, and would be glad to discuss further if it would be helpful. If you have any questions, please contact Elizabeth Lee at elizabeth@homedialysisalliance.org or 202-466-8700.

Sincerely,

Stephanie Silverman
Executive Director

Participating Organizations (2016)

American Association of Kidney Patients
American Nephrology Nurses Association
American Society of Nephrology
American Society of Pediatric Nephrology
Baxter
Cleveland Clinic
DEKA Research and Development
Dialysis Clinic, Inc
Dialysis Patient Citizens
Fresenius Medical Care
Greenfield Health Systems
Home Dialyzors United
International Society for Peritoneal Dialysis, North American Chapter
Medical Education Institute
National Kidney Foundation
Northwest Kidney Centers
NxStage Medical
Outset Medical, LLC
Renal Physicians Association
Satellite Healthcare
Southwest Kidney Institute
The Rogosin Institute
TNT Moborg International Ltd.

Statement of

SAUL LEVIN, M.D., M.P.A.

CEO AND MEDICAL DIRECTOR

On Behalf of the

AMERICAN PSYCHIATRIC ASSOCIATION

For the

COMMITTEE ON WAYS AND MEANS
Subcommittee on Health

Exploring the Use of Technology and Innovation
To Create Efficiencies and Higher Quality in Health Care

September 14, 2016

10:00 a.m.

On behalf of the American Psychiatric Association (APA), the national medical specialty society with over 36,500 psychiatric physicians nationwide, I write to submit into the record a statement with respect to the hearing on September 14, 2016, held by the Ways and Means Committee, Subcommittee on Health: *Exploring the Use of Technology and Innovation to Create Efficiencies and Higher Quality in Health Care*. The APA thanks Chairman Tiberi and Ranking Member McDermott for holding this hearing and facilitating a discussion on this important topic.

The APA believes that health information technology (HIT) systems can play a pivotal role in improving patient safety and quality of care. However, in order for that goal to be fully realized for psychiatric medicine, several barriers must be overcome, including a lack of true interoperability, the originating site restriction under Medicare, and lingering burdens unique to psychiatry in the Advancing Care Information (ACI) category – also under Medicare.

The lack of true interoperability between HIT systems arguably remains the largest challenge facing providers and policymakers today. Some barriers to achieving true interoperability are unique to psychiatry, while others are ubiquitous across the electronic health records (EHR) landscape. Interoperability is predicated on the idea that the patient's record should follow them wherever they go, geographically speaking, without restriction between health systems and providers. This idea has yet to become a reality primarily because larger EHR vendors view this as a direct threat to their business models, which often center on data collection and retention. Consequently, smaller EHR vendors, including those who focus on mental illness and substance use disorders, encounter challenges when designing systems since there is little to no incentive for larger vendors to cooperate with them. Thus, psychiatric patients' records are often kept separate from other health records, preventing the patient's full health history from being reviewed in one place.

The Office of the National Coordinator (ONC) for Health Information Technology has taken some steps to addressing the above issue, but both Congress and ONC could do more by developing a single performance standard for interoperability. Such an action, whether taken through legislative or regulatory means, could ensure that all vendors, large and small, have fewer reasons to compete and more incentive to share data, because a single performance standard could be based around payment reform. Such a standard would have to be designed in a way that does not place any undue burden on smaller vendors, especially those designing systems for mental health.

True interoperability would lead to increased quality of care for psychiatric patients who are at risk for continued readmissions due to poorly controlled symptoms of various disorders. Better HIT systems that share information across practices could find patterns to patients' readmissions (i.e., psychosocial reasons for decompensating; medication non-compliance; persistent suicidal ideation, etc.) and thus be able better to prevent repeated presentation at the emergency department.

Another barrier to HIT is the originating site restriction under Medicare, which restricts a patient setting to a clinical site, such as a doctor's office, outpatient facility, or hospital. Eliminating the restriction would be of particular benefit to psychiatry and the in-home treatment of mental illness and substance use disorders. This would especially benefit patients with

chronic/persistent diseases, as well as those with conditions that have demonstrated greater efficacy of treatment for telepsychiatry vs. in-person care. Furthermore, eliminating the originating site restriction would broaden access to psychiatric medicine for the treatment of mental illness in general by eliminating the stigma of going into the office for treatment.

Finally, the Advancing Care Information (ACI) category, which carries over many facets of the Meaningful Use program, still carries substantial administrative burdens unique to psychiatry compared to other specialties. Specifically, the objectives around engaging the patient within the EHR (e.g., View, Download, Transmit; Secure Patient Messaging, etc.) is a challenge for psychiatry due to the inherent symptoms in various psychopathologies that make this type of behavior difficult (e.g., major depressive disorder; schizophrenia and other cognitive disorders). Many psychiatrists practice within solo or small group settings and have slow to adopt EHRs, compared to the high level of adoption by large hospital systems, as reported by the ONC. The reasons behind this tend to be that the EHRs that are specifically designed for mental health are lacking in functionality that would allow the psychiatrist to use the system in a "meaningful" way, as defined by the ACI. EHR systems designed for larger practices tend to be expensive and require greater administrative support to bring online into practice and to integrate into existing workflows, which also is a reason as to why psychiatrists have been slow to adopt. Thus, not having an EHR results in a "zero" score on the ACI category, which will disproportionately, negatively affect small/solo providers, and may force some to decline Medicare patients.

The APA applauds the Subcommittee's attention to the important issue of health information technology, and we look forward to staying engaged with you moving forward. If you have any questions, please contact Ariel Gonzalez, Chief of Government Relations, at agonzalez@psych.org.

CAPE FEAR VALLEY HEALTH SYSTEM
1638 Owen Drive
Fayetteville, NC 28304

September 15, 2016

The Honorable Pat Tiberi
House Ways and Means Committee
U.S. House of Representatives
Washington, DC 20515

Submission on behalf of:

TeleTracking Technologies Inc.
The Times Building
336 Fourth Avenue
Pittsburgh, PA 15222

Frank Campbell, (CSM Ret.), EJD, MBA/HRD, BS
Cape Fear Valley Health System
Director, Patient Transportation
1638 Owen Drive
Fayetteville, NC 28304
Office (910) 615-4605 Fax (910) 321-6160

Dear Committee members

Thank you for allowing me to submit my testimony on "exploring the use of technology and innovation to create efficiencies and higher quality in healthcare" on behalf of TeleTracking Technologies. My testimony expounds on the computer link attached in PDF format; written and published as a client profile by TeleTracking Technologies. My journey as a healthcare professional started in August of 2000 with Cape Fear Valley Health System. I made a choice to join Cape Fear Valley Health System because I believed the organization constantly strived to improve organizational performance and provide quality care.

Once I started working as a healthcare professional, I noticed there were similarities with the military and healthcare with respect to using technology and innovation to create efficiencies. With respect to the military, the task is somewhat simplified, because the military has reorganized based on advances in technology and innovation in preparation for transitioning to an elite 21st century fighting force. This in my opinion, created transparency within the conventional and regimental systems. The military success is further advanced with effective use of lessons learned, which negates duplicating previous errors made by units in training or combat.

Healthcare uses technology and innovation to create efficiencies as well. As with most health systems when I started working for Cape Fear Valley Health System, I observed that our patient flow information technology wasn't fully interfaced. This had a negative impact on improving our operational efficiency, while simultaneously negating patient flow transparency within the health system. Consistent with the attached computer link, I've always been a leader that desired to step up to a challenge, therefore, I volunteered to take on the task of synchronizing both Patient Transportation and Environmental Services into the health system patient flow workflow. Patient flow and throughput quickly became my top priorities. I observed inefficiencies and a moderate decline in staff productivity during my initial assessment period. In my opinion, this had a profound impact on patient flow, which by default affected patient satisfaction. I immediately starting using a simple methodology I learned while serving in the military by applying four pillars of leadership; leading, training, maintaining and sustaining. This enabled me to gain the trust of staff to support patient flow initiatives.

My health system had a Teletracking patient flow module called Patient Tracking VIP ® and Bed Tracking ® which focused on Patient Transporters and Environmental Services workflow. Both were products of TeleTracking Technologies and were used as a stand-alone system. This hindered transparency in the organization. Consistent with the challenges the majority of health systems in a similar position encountered with transparency and mastering patient flow, cost reduction eventually emerged as a financial strategy to ensure operational effectiveness. I felt the desire to make something happen so I embarked on a search for a much better and reliable product that could satisfy customer needs, while having a positive effect on efficiency and patient flow.

After attending a TeleTracking client conference, I was introduced to a new product that would improve operational efficiency, patient flow and productivity called Capacity Management Suite ™. My challenge appeared simple on its surface. If the system interfaces, mission accomplished. The system had an immediate impact with improving my patient transport average response time, bed turn-around time, and enhance measuring staff productivity. Transparency enhanced as well because the system interfaced with our health system ADT system. The thought often crossed my mind during the implementation process; if I could have located a link though web searches on lessons learned, I would not have to reinvent the wheel on patient flow. Unfortunately, when I did locate several links through web searches of lessons learned they were often broad, with a primary focus on the relationship between a specific vendor and their client. In other words, what I was attempting to accomplish and what I found on my web search failed my matching test. Therefore, the lessons learned were deemed useless.

In my opinion, technology and innovation to create efficiencies will only succeed if shared among health systems. We should never forget that our reason for existence is the patient. I firmly believe if technology and innovation advances can be shared as one joint link to provide lessons learned that's similar to what the military established, then success with efficiencies and higher quality will follow. This can be achieved through vendor collaboration that synchronizes all respective health systems client lessons learned, to include addressing specific topics such as patient flow. In addition, information technology sharing on lessons learned, if shared properly, will have a significant impact in providing quality care.

The outcome of technology sharing is likely to yield higher quality and better access; a possible decrease with patient insurance, versus a rise with consumer-surance. I've given my own definition to consumer-surance as insurance cost increases impacted by fierce competition.

I would be remiss if I didn't mention the success and significant achievement my health system has realized using people with technological advances. It's not surprising to me why my health system continues to be the healthcare provider of choice for thousands of families in the region. Our commitment to allow stakeholder participation and collaboration in my opinion is the standard setter for other health systems to emulate. Below is a marketing extract about Cape Fear Valley Health System and its significant achievements.

ABOUT CAPE FEAR VALLEY

Cape Fear Valley is a 916-bed, 8-hospital regional health system, the 8th largest in North Carolina, with mor than 1 million inpatient and outpatients annually. A private not-for-profit organization with over 7,000 employees and 850 physicians, it includes Cape Fear Valley Medical Center, Highsmith-Rainey Specialty Hospital, Cape Fear Valley Rehabilitation Center, Behavioral Health Care, Bladen County Hospital, Hoke Hospital, Health Pavilion North, Health Pavilion Hoke and Harnett Health.

Cape Fear Valley has been nationally recognized by:

- Leapfrog Group Hospital Safety Score A Rating
- The Joint Commission Top Performer on Key Quality Measures® for Heart Attack, Hea Failure, Pneumonia and Surgical Care, Stroke and Perinatal Care
- North Carolina-Designated Level Three Trauma Designation
- Society for Cardiovascular Patient Care: **Chest Pain Center Accreditation**
- The Joint Commission: Disease Specific Certification in **Hip Replacement Surgery**
- The Joint Commission: Disease Specific Certification in **Knee Replacement Surgery**
- The Joint Commission: Disease Specific Certification in **Heart Failure**
- The Joint Commission: Disease Specific Certification in **Advanced Stroke**
- The Joint Commission: Disease Specific Certification in **AMI: Acute Myocardial Infarction**
- The Joint Commission: Disease Specific Certification in **Pneumonia**
- The Joint Commission: Disease Specific Certification in **Sepsis (Cape Fear Valley Medica Center and Bladen County Hospital)**
- The Joint Commission: Disease Specific Certification in **Wound Care (Highsmith-Rainey Specialty Hospital)**
- American College of Surgeons Commission on Cancer: **Cancer Center Accreditation**
- American College of Surgeons National Accreditation Program for Breast Centers: **Breast Care Center Accreditation**

I'm proud to be a leader at Cape Fear Valley Health System. I will continue to lead on my feet, not my seat, empower my staff, while constantly raising the bar to exceed our patient experience

Sincerely yours,

Frank Campbell

Rapid City Regional Hospital

Rapid City Regional Hospital, a Level 2 trauma and primary stroke care center serving western South Dakota, overcame a patient diversion problem by using TeleTracking capacity management tools to reduce LOS and increase bed capacity, with diversions dropping from a monthly high of 35 to zero in just five months.

CHALLENGE

RCRH is the region's largest referral center with the closest alternative 300 miles away. In October of 2013, the hospital diverted 35 incoming patients because of capacity issues. It was determined that Length of Stay had to decrease in order to make beds available for incoming patients. While TeleTracking's capacity management system had been installed a few months before, many of its features, including discharge prediction, were not being used.

ACTIONS

Hospital leadership determined that staff needed to be educated regarding how TeleTracking's discharge functionality could predict census and help decrease the amount of bed–related diversions. Nursing units were instructed to enter a "pending" discharge milestone alert within 24 hours of the event. If a "confirmed" discharge was delayed more than two hours, staff was required to enter the "delay" reasons, which revealed standing barriers to discharge that needed to be addressed.

RESULTS

- LOS decreased 1.1 days in seven months
- Bed related diversions went from 35 in October, 2013 to zero in March, 2014
- Bed days increased from 7,305 to 16,374
- Admission capacity increased from 1,353 to 3,484
- Cost of admission was reduced by $2,297 from October, 2013 to July, 2014
- Daily custom reports offer insights into further decreases in LOS
- The ability to staff to demand has increased sharply

"We were an organization that was not very accepting of TeleTracking and were not utilizing the solutions to their fullest potential. Once we started taking advantage of the pending and confirmed discharges, our length of stay decreased 1.1 days from October 2013 to April 2014."

TeleTracking Solutions:

- Capacity Management Suite™
- TransferCenter™
- Patient Flow Dashboard™
- Custom Reporting Solution™

Electronic Health Record:

- Meditech

By the Numbers:

- Beds: 417
- Annual Admissions: 17,674
- Annual ED Visits: 52,508

Awards & Recognitions:

- The Joint Commission Gold Seal of Approval
- Primary Stroke Care Center – The Joint Commission

TeleTracking

 RCRH

TeleTracking | 336 Fourth Avenue | The Times Building | Pittsburgh, PA 15222-2004 USA | 800.927.0294 | www.teletracking.com

TeleTracking

CASE STUDY

Transfer Center drives 300 percent volume increase at San Antonio Healthcare System

Automated Transfer Centers (TCs) are an increasingly popular way for health systems to streamline the referral process and gain referral share. Aided by patient flow technology, TCs maximize existing capacity, reduce diversions and save lives. They also maintain good referral links, generate substantial new revenue and point the way to new business opportunities in existing service areas.

Creation of a Transfer Center, staffed 24/7 by specially trained RNs and supported with a computerized electronic patient flow system, increased external transfer volume at San Antonio's nine-hospital Methodist Healthcare System by over 300 percent.

In 2010, Methodist chose to invest in capacity management automation as a healthcare reform strategy rather than investing in EMRs. Increased congestion from a decade of population growth in its 26-county service area was delaying patient care, including access to the nation's top live donor kidney transplant center and paired kidney exchange. ER diversions averaged 700 hours per month, patient placement averaged seven hours, and ED hold hours were increasing. A home-grown electronic bed request system yielded no real-time data, isolation status was not being effectively communicated, and departmental "silos" produced constant communication breakdowns.

This resulted in lost business and dissatisfaction among physicians, employees and patient families. In addition, the system

was dealing with an aging citizenry and the prospect of thousands of newly insured seeking medical care under provisions of the Affordable Care Act.

Twenty of the 26 counties in the service area are rural, with older populations, presenting a great growth opportunity for Methodist. But in 2010, competitors admitted 18,000 of the 35,000 patients from those areas.

The situation prompted executive leadership to make capacity management Priority No. 1 in order to serve a higher patient volume with existing capacity and ward off competition.

Methodist's first step in correcting the problem was to institute an enterprise-wide multidisciplinary throughput steering committee to lead all patient throughput initiatives for the health system. Then it created an executive level office of Vice President-Patient Management to underscore the importance of improving patient flow.

MHS also engaged TeleTracking's consulting services group, Avanti®, to review existing patient flow practices and identify improvement opportunities. During the engagement, Avanti worked closely with MHS leadership and staff to gather and examine data which would help to assess existing practices.

Avanti performed a gap analysis to assess operations at Methodist Hospital, Methodist Specialty and Transplant Hospital, Metropolitan Methodist Hospital, Northeast Methodist Hospital, Methodist Stone Oak Hospital, and Methodist Children's Hospital. The analysis compared effectiveness of centralized vs. dispersed capacity management by asking the following questions, among others:

- Is there a wide spread redundancy of resources?
- Are the smaller hospitals meeting their budgeted missions?
- Are you cancelling staff, losing revenue, leaving beds empty at the smaller hospitals while patients are waiting at the tertiary facility?
- Are you really looking out for the patient? Are patients really safe if they're sitting at home waiting for a call or in the wrong facility for their needs?

The Operational Platform

A core initiative called for centralizing enterprise-wide patient logistics into an operational hub, which included an automated transfer center linked to existing patient flow automation. The transfer center was staffed round the clock with experienced critical care nurses who determined all internal and external patient movement throughout the MHS campuses. The center included call recording capabilities, multi-caller conferencing options, and physician specialty algorithms. This truly centralized approach, using best practice standards, made Patient Placement Services (PPS) the true 'hub' for all patient flow activities throughout the system.

As a key part of the changeover, MHS invested in TeleTracking's TransferCenter™, an application which automates the referral process and links the center to the units system-wide, providing a single, efficient electronic access point to streamline patient placement from outlying facilities.

This link, through integration with TeleTracking's enterprise-wide patient flow software, makes information about bed availability, transport, etc., accessible in real time to transfer center staff, who can then request the correct bed for a patient's condition without a flurry of phone calls and negotiation. In addition, all data regarding the transfer is recorded, including referral source and timeliness of response, for future analysis.

The TransferCenter™ solution replaces manual processes which can no longer keep up with today's demands for specialty services, like phone calls, faxes, email, manual bed checks, locating an admitting physician and arranging transportation. These manual processes

At Rush University Medical Center, outside hospital transfers and improved patient flow have contributed over $40 million per year to the medical center's margin. At the University of Utah, annual net margin increased by over $5.3 million after implementation of TeleTracking's TransferCenter® application

"The streamlined flow of referral patients has been a great help to outlying referring physicians and has increased physician satisfaction both inside and outside of Methodist Healthcare. Physicians are getting patients to the needed level of care quicker and surgeries are not being cancelled."

– Susan Kilgore, VP-Patient Management, MHS

often resulted in inconsistent data, limited reporting, increased liability risks, strained referral relationships, reduced volume potential and ultimately, poorer patient care.

The solution coordinates all admissions requests from other hospitals and local physicians through a single phone number, and digitally captures patient medical and demographic information, eases physician communications and handles bed requests, registration and transportation. It also automatically records critical timestamps and milestones in the referral process and provides post-referral analytics to measure transfer center performance and provide business insight regarding the referral process.

This centralized, automated transfer center concept has been implemented in several other major hospitals with great success. For example, at Rush University Medical Center, outside hospital transfers and improved patient flow have contributed over $40 million per year to the medical center's margin.

At the University of Utah, annual net margin increased by over $5.3 million after implementation of TeleTracking's TransferCenter™ application.

The Transfer Center Application Includes:

- An active work list of all open transfer requests/cases
- One-click creation of a new referral case
- Ability to manage multiple open referrals simultaneously
- Intake forms to capture patient demographic and medical information, referring facility information, reasons for transfer request, and requested service
- A facility for recording referring and admitting physician information
- An ability to timestamp important communication milestones, including time of request, when MD has been paged or re-paged, when MD returned call, and when referring and admitting physicians spoke
- A screen to capture final disposition of transfer case including assigned Unit, Bed and/or Service if the patient is admitted
- Robust set of standard reports and a custom reporting tool

The Metrics Dashboard of the "Hub" shows:

- Accepted/Declined/Cancelled/Consults
- Time of Transfer request to Acceptance
- Time of Day
- Day of week
- Breakdown by Specialty
- Origin Unit of Incoming Patients
- Payor Status (by Specialty)
- Surgical Procedure
- Transport Mode
- Accepting Physicians
- Physician/Facility Survey
- Transfer Center Scorecard

Avanti, which is predominantly comprised of former nurses and nursing executives, was also actively involved with process and culture changes. The consultants quickly won the credibility of their peers because they could share their own experiences with those changes and how they made a difference for both patients and nurses.

A Real-Time Enterprise

In addition, the system widely deployed new dashboard technology, which permitted leadership to monitor physical operations in real-time and intervene whenever and wherever capacity management problems would arise, thus avoiding major bottlenecks. This digital bird's eye view of system-wide capacity also permits intra-system patient movement for optimum capacity utilization, which helped reduce ED hold hours by 50 percent.

Real-Time Capacity Management essentially provides a "motion picture" of the entire operation on the desks of Methodist's top management and any decision-makers involved in the operations process. Among other things, this running report, delivered via dashboard, provides a constant update of census, indicates which units are complying with 11 AM discharge goals, which are accepting patients within a 90-minute window and whether staff levels are matching volume requirements.

Analysis of real-time data identified root causes of process delays and wait times for space, materials, staff and patients, producing actionable opportunities to improve overall performance. The data yield also has helped MHS identify shifting referral trends and new service opportunities by region and demographics.

Methodist is also matching capacity management data with financial data to gain additional insights into the impact of real-time operations monitoring.

Overall, capacity management technology has played a key role in alleviating overcrowding, increasing transfer and admissions volume, dramatically reducing waste, promoting on-time discharges and shortening LOS by allowing hospitals to manage capacity and resources in real time.

RESULTS

The results at Methodist have far exceeded expectations. Within the first year:

- Transfer Center volume **more than tripled** within three months of centralization, jumping from 300/month to 1,000/month. The response from referring physicians and MHS department heads has been extremely positive and data analysis has yielded several revenue generating service opportunities.
- The transfer acceptance rate is now at **99 percent** and monthly ED diversions dropped from 700 hours to just eight hours.
- Bed assignment time has **decreased 68%**.
- Lost bed time went **from 76 minutes to 35 minutes**.
- Time from bed request to bed occupation is **down 45 percent**.
- The system gained an additional **4.5 percent share** of the rural market and exceeded overall budget projections by **7.9 percent**.
- Centralized placement has **eliminated "silo" problems** in the process because placement and transfer decisions are made in real-time at an all-encompassing enterprise level.
- System-wide bed searches and confirmation are completed **within 10 minutes** of a request.
- At MHS' Stone Oak facility, confirmed discharge compliance went **from 50% to 90%** after electronic dashboards were installed in administrators' offices.
- **Digitized** patient demographics, history, diagnosis, transfer logistics, referral source, which helps determine shifting trends in referrals and identify opportunities to deliver new services by region and demographics.
- Stronger, more **productive** referral patterns
- A **shift in the hospital culture** from competitive to collaborative, from silos to shared organizational goals, and from linear to parallel thinking by making patient tracking information available in real time.

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Oklahoma University Medical Center

Oklahoma University Medical Center [OUMC] is a collaboration between OU Medical System, OU Physicians and The University of Oklahoma College of Medicine. The system includes a 600 bed tertiary academic medical center, the only level one adult and pediatric trauma center in Oklahoma, a 50 bed community hospital and a free standing emergency department. Prior to shifting from an outsourced transfer center to their own centralized patient placement and transfer center, OUMC was experiencing a lack of connectivity with their bed management process, 46 different protocols for specialty services and no concrete contingency plans for times of high utilization.

Challenge

With an outsourced transfer center, OUMC was experiencing significant access issues. The center had the reputation among physicians that it was nearly impossible to get into, that the doctors weren't available to consult with, and that it took multiple calls to get to the right person and/or get a patient admitted.

OUMC recognized that large numbers of patients were being denied due to a lack of connectivity to a dynamic bed management process, 46 different protocols for specialty services, lack of access to the latest call schedules, and a lack of resources to develop contingency plans during times of high utilization.

They knew the focus needed to be on improving the referral process, increasing the number of accepted patients and decreasing the number of denied patients.

Actions

The goals of bringing the transfer center in-house and combining it with patient placement were to:

- Improve customer service by decreasing physician bouncing and adding satisfaction scripting
- Implement accurate time stamping
- Determine where performance improvements needed to be focused
- Develop a protocol for issue tracking and follow-up
- Develop robust reporting
- Decrease the number of calls by getting the right information up front

The implementation process included:

- Developing a coalition of advocates within hospital administration and creating an executive role to oversee the entire patient logistics center.

Products:

- Capacity Management Suite™
- PatientTracking Portal™
- TransferCenter®
- Custom Reporting Solution™
- Patient Flow Dashboard™
- RTLS

By The Numbers:

- Beds: 796
- Annual ER Visits: 96,900+
- Inpatient Admissions: 38,000+
- Annual Transfers: 12,600+
- Referring Agencies: 300+
- Specialty Services: 46

Electronic Medical Record

- Meditech

Awards:

- *U.S. News & World Report* Best Hospitals
- The Joint Commission Gold Seal of Approval
- Best ER in Metro Family

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- Developing specific protocols with continuous process improvement at the center.
- Bringing housekeeping, patient transport, patient placement and transfer center staff to a single location to improve communication and efficiencies between departments in order to solve challenges in real-time.
- Staffing requirements – 24/7 for patient placement and transfer center staff; 12/5 for housekeeping and patient transport.
- Establishing partnerships between Cardiology for STEMI auto-accept; Neurology for streamlined communication; High Risk OB to streamline referral and transport; Flight Service for STEMI/Stroke acceptance and OB transport; and Radiology for interventions from system facilities.

Results

Since the implementation of the centralized patient logistics center in 2011, bottlenecks have been reduced with the improved communications, with metrics such as:

In addition, customer service improved significantly with improved relationships between referring and receiving physicians. Accurate time stamping with TeleTracking's TransferCenter® made it possible to accurately evaluate the times patients checked in and out, as well as track physician call backs, re-pages and follow-up. The improved reporting also made it possible to provide information about the payor source to specialty services and detailed information about quality and payer mix. Furthermore, the number of calls decreased because staff was able to get the placement right the first time and trust increased between the transfer center and the other service areas.

Year-over-year transfer volume jumped 19 percent, far exceeding a projected rise of five percent.

Rush University Medical Center

Rush University Medical Center, an internationally respected academic medical center in Chicago, has contractual agreements throughout the Midwest to provide care to transferred patients. As part of an expansion program, Rush knew it needed to do a better job of managing capacity in order to accommodate incoming patients from its transfer center. They've achieved amazing results since 2011 when they implemented the automated transfer center software by TeleTracking – an additional $53 million to their bottom line in 2014.

Challenge

Rush had been operating its large patient transfer operation manually, with two nurses using clipboards to record open bed space. Inefficient capacity management limited the number of patients the medical center could accept. Also, the volume of transfers created huge amounts of data which caused challenges for staffing, care coordination and the movement of patient information across the system. It was anticipated that an automated update of its transfer center would help Rush maintain financial stability and grow strategic service lines.

Actions

Rush wanted a centralized, unified, interconnected platform to coordinate patient documentation, location and flow. Already a TeleTracking patient flow client from the early 2000's, leadership decided to implement TeleTracking's TransferCenter™ solution to not only streamline patient transfers, but to integrate with its bed management, patient placement and transport solutions so that they could identify choke points in care support operations. The data collected from this integrated system allowed Rush to identify potential areas for improvement, and features within TeleTracking not be utilized that would have a significant impact for both patients and caregivers. To promote buy-in, Rush management explained the criticality of the solutions in providing patients with not only access to care, but also the best care throughout their length of stay.

Results

- Patient transfer volume increased from 1,200 per year to 4,000 per year.
- Transfer increases contributed $53 million in revenue for Rush in 2014.
- Year-over- year transfer volume jumped 19 percent, far exceeding a projected rise of five percent.
- Performance reports spurred staff to reach or exceed established goals.

TeleTracking Solutions:

- Capacity Management Suite™
- TransferCenter™
- Custom Reporting Solution™
- Patient Flow Dashboard™

Electronic Medical Record

- Epic

By The Numbers:

- 664 Beds
- Non-profit

Awards & Recognitions:

- Magnet Institution
- "Best Hospitals" Top 50
- Leapfrog Group Top Safety award

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TeleTracking®

- Increased awareness and use of features like Instant Notify, Ready to Move and Three-Bed Ahead have been sustained.
- Decrease in the number of phone calls, and an increase in the use of automated alerts and notifications.
- TeleTracking data provided justification to hire staff to meet added demand.
- Volume prediction extended two days forward permitted daily "right-sizing" of staff to meet expected demand.
- A one-way interface which could pull data from their EMR provided robust medical records which would follow patients throughout the system.
- System-generated reports reduce the time-consuming manual process of collecting wait time data points.

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TeleTracking

THE WAITING GAME *and why* PATIENTS & CAREGIVERS ARE LOSING

Waiting is *robbing* us.	*Time* 20 MILLION UNNECESSARY PATIENT DAYS	*Capacity* 3-5 MILLION ADDITIONAL PATIENTS COULD BE SERVED	Operational efficiencies and effective patient flow could unlock tens of millions of days in latent capacity and dramatically reduce the average length of stay.
Waiting is *costing* us.	*Lives* 37 THOUSAND DEATHS CORRELATED WITH ED BOARDING PER YEAR	*Money* $100 BILLION PER YEAR IN HOSPITAL OPERATIONAL INEFFICIENCY	Patient boarding for 6+ hours while waiting for a bed has been correlated to a 1.7% increase in mortality rate and an additional 1.5 days in length of stay.
Waiting is *frustrating* us.	1.9 MILLION PATIENTS LEAVE WITHOUT BEING SEEN EVERY YEAR	*while...* 39 PERCENT OF HOSPITAL BEDS REMAIN UNOCCUPIED	With 39% of all hospital beds typically unoccupied (~330K beds), no patient should ever be denied timely access to care.

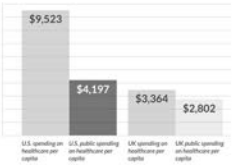
Our spending and inefficiencies *don't add up.*

U.S. RANKS 44TH OUT OF 51 COUNTRIES IN OPERATIONAL EFFICIENCY

Bloomberg ranks the United States 44th out of 51 in healthcare efficiency, right between the Dominican Republic (43) and Bulgaria (45).

U.S. PUBLIC SPEND PER CAPITA ON HEALTHCARE EXCEEDS TOTAL U.K. SPEND PER CAPITA ON HEALTHCARE

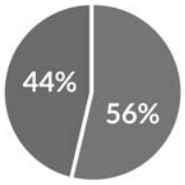
Approaching 20% of GDP, total U.S. healthcare spending is an estimated $3.3T. Federal healthcare spending exceeds federal spending on education and defense combined.



PROJECTED NURSING SHORTAGE OF 260 THOUSAND BY 2025

DEMAND **INCREASE**: An aging population with half suffering at least one chronic condition, and more than a quarter suffering multiple chronic conditions.

SUPPLY STRAIN: Research shows the U.S. will enter the worst nursing shortage in more than five decades.



56% OF NURSE TIME SPENT ON DOCUMENTATION AND CARE COORDINATION


THE WAITING GAME
HAS NO WINNERS.
Each year...
136 MILLION PATIENTS VISIT THE EMERGENCY DEPARTMENT
500 THOUSAND AMBULANCES ARE TURNED AWAY FROM THEIR INTENDED HOSPITAL.
1.9 MILLION PATIENTS LEAVE WITHOUT EVER BEING SEEN
16.2 MILLION ADMITTED PATIENTS WAIT 4.3 MILLION DAYS FOR A BED*
*An additional 10.7 million patients are admitted outside of the emergency department.
AFTER BEING ADMITTED 2.2 MILLION PATIENTS BOARD 6+ HOURS EACH WAITING FOR A BED
WHY ARE WE WAITING WHEN THERE ARE...
SEVEN OPEN BEDS for every TWO PATIENTS ADMITTED ?

Statement from the College of Healthcare Information Management Executives

House Committee on Ways and Means
Subcommittee on Health

Hearing on "Exploring the Use of Technology and Innovation to Create Efficiencies, Higher Quality, and Better Access for Beneficiaries in Health Care"

1100 Longworth House Office Building

September 14, 2016

The College of Healthcare Information Management Executives (CHIME) is pleased to submit a statement for the record of the September 14, 2016, Committee on the Ways and Means Subcommittee on Health hearing entitled, "Exploring the Use of Technology and Innovation to Create Efficiencies, Higher Quality, and Better Access for Beneficiaries in Health Care." We appreciate the committee's interest in this timely issue and welcome the opportunity to offer perspective from the nation's healthcare chief information officers.

CHIME is an executive organization serving nearly 1,900 CIOs and other senior health information technology leaders at hospitals and clinics across the nation. CHIME members are responsible for the selection and implementation of clinical and business technology systems that are facilitating healthcare transformation. CHIME members are among the nation's foremost health IT experts and our organization is a strong proponent of health IT and its ability to enable improvements in health care quality, increase affordability, and improve healthcare outcomes.

Healthcare IT Transforming Care Delivery

Since enactment of the Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH), the healthcare industry has made a significant shift in the way technology is used to treat and engage with patients. The prolific adoption of electronic health records (EHRs) and other health IT resources by clinicians and patients will pay dividends as we continue to transition to value-base care. A robust digital health infrastructure — built around highly functional and user-friendly EHRs and health IT tools that are also secure and protective of privacy — is key for physicians and hospitals to be successful in new payment and care models, as well as to stimulate patient engagement and education.

Promoting Interoperability

Improving quality of care and lowering costs depends on the free flow of patient data securely across care settings. Unfortunately, we are missing out on opportunities to advance population health management and improve the nation's overall health status because major obstacles still remain in enabling information exchange. Most notably, robust information exchange and nationwide interoperability can only flourish once we can confidently identify a patient across providers, locations and IT systems.

Patient Identification

As the need grows to exchange health information across unaffiliated providers — in order to coordinate care — and as patients increasingly access and share their own data, it becomes even

more important to ensure that patients are accurately identified and matched to their data. This is also the first step toward effectively protecting and securing identities and moving toward an interoperable healthcare system. Recognizing that the industry can no longer wait and patients deserve better, CHIME, through its Healthcare Innovation Trust, in coordination with HeroX, launched a $1 million crowd-sourcing challenge to find a safe, private and secure approach to ensure accurate patient identification. The first phase of the competition saw 113 innovators from around the world submit ideas; more than 370 individuals and teams from 40 countries have registered for the National Patient ID Challenge. The challenge winner and final solution is expected to be announced in April 2017.

Still, the industry will be saddled by a 20-year-old policy that continues to impede progress even once a solution is identified and adopted by the private sector. The most significant hurdle is posed by the language included in the Labor-HHS Appropriations bill that prohibits the Department of Health and Human Services (HHS) (in Sec. 510) from using any federal funds to "promulgate or adopt any final standard .... providing for the assignment of a unique health identifier for an individual."

Technology has provided for alternatives to a numeric or alphanumeric identifier as a solution, and the government does not need to be the arbiter of the identification solution, but HHS must be able to provide technical assistance to private sector initiatives. Unfortunately, HHS has interpreted the annual funding ban to prohibit them from collaborating or assisting with private sector efforts to improve patient identification on a national level.

Data Standards

Even as we work to accurately identify patients and match them to their records, the industry and policymakers need to accelerate work on developing data standards. It is imperative that clinicians have faith and trust in the integrity of the data that's moving across the continuum. Great variation exists in how IT systems set data standards to capture critical information. This includes everything from date of birth to vital signs. The result is that IT systems often can't communicate with one another effectively or efficiently. This greatly limits the ability to move data quickly from one provider to another.

While a focus on standards may seem overly simplistic, a more defined technical infrastructure is needed to catalyze innovations in digital health. The Office of the National Coordinator for Health IT (ONC) administers the EHR certification program with which EHR developers must comply in order to be competitive in the marketplace. Providers must use certified EHRs (CEHRT) in order to avoid financial penalties under the Medicare Meaningful Use program and in some cases as a condition of reimbursement for other programs and services. Increasingly, HHS is mandating the requirement to use CEHRT as a way to drive interoperability across the healthcare system. However, variability in the standards used by EHR vendors persists which creates ongoing challenges when exchanging and using data between and among providers for patient care.

The federal government should continue to drive standards identification and adoption in the following nine categories:

1. Patient identification,
2. Resource locators (e.g. provider directories),
3. Terminologies,
4. Detailed clinical models,
5. Clinical data query language based on the models and terminology,
6. Security (defined minimum requirements for security, standard roles and standards for naming types of protected data, a common security framework, and standards for sharing cyber information),
7. Application program interfaces (APIs),

8. Transport protocols, and
9. Expressing clinical decision support algorithms.

It's imperative that ONC continue to leverage relationships with the private sector to capitalize on the progress made to date across the industry.

Medical Device and Develop Technologies Standards

While emphasis is often placed on the exchange of data across providers, health systems and between EHRs, it's also vital to recognize the myriad of other data sources that are intended to be interoperable in order to facilitate automatic entry into the EHR for which standards are absent or immature. Biomedical devices are populating data in EHRs and patients are populating data through their patient portals or wearables which can ultimately be included in their EHR. Thus, a standards-based digital architecture must be present for the capture and exchange of data first within the four walls of a provider setting then between and among different providers, and all IT systems across the care continuum.

Strengthening Federal Telehealth Policies

Another key component to advancing value-based healthcare is keeping patients out of expensive care settings. Telehealth has long shown promise in extending the consultative reach of clinicians in tertiary settings to those in smaller or rural communities. In today's wired environment, telehealth can also be used to keep more routing cases from clogging emergency departments and physician's offices. However, Medicare telehealth policies need to mature and expand in order to achieve the transformational potential that widespread remote patient monitoring (RPM) and telemedicine adoption hold to improve care. Hospitals and health systems are embracing the use of telehealth technologies because it offers benefits, including the ability to perform high-tech monitoring without requiring patients to leave their homes, which can be less expensive and more convenient for patients. Telehealth services come in many forms, from post-discharge remote monitoring programs resulting in the potential for reduced hospital readmissions, to emergency departments using remote video consultations to enable patients to receive a telepsychiatric screening. Unfortunately, the proliferation of telehealth and remote monitoring technologies has been limited, not by technical restraints, but policy barriers.

Adequate reimbursement for hospitals and other healthcare providers for employing such services, is a complex and evolving issue and, as a result, has been a barrier to standardizing the provision of these valuable services. In fact, private payers' reimbursement policies are often far more favorable than federal ones. Inconsistencies in the definition and reimbursement policies of telehealth services in federal and state programs are hurdles to widespread adoption. Despite the expanded opportunity for reimbursement under the Medicare Access & CHIP Reauthorization Act (MACRA), we remain concerned with the limited coverage in place today. Geographical limitations currently restrict the provision of telehealth services. The demand for "parity" in reimbursement for services provided in-person by a physician and those via telemedicine has never been greater. The realignment of federal payment structures will be a key factor to increasing access to telehealth services to those patients who desperately need them.

Further, while Medicaid encourages states to use flexibility to create innovative payment methodologies for services that incorporate telemedicine, there are still significant coverage gaps from state-to-state. Differences in state laws, definitions and regulations create a confusing environment for hospitals and health systems that may care for a patient across state lines. These are just some of the barriers that we would suggest the committee consider as they finalize their telehealth-related priorities and policies.

The committee should consider how to address cross-state licensure concerns, often imposing troublesome legal barriers to a physician wishing to offer telehealth services to a patient in another state. CHIME supports policies to allow licensed healthcare providers to offer services to patients, using telemedicine, regardless of what state a patient resides in, notwithstanding whether the patient is within a traditional care setting or in one's home.

Federal telehealth policies lag those of both state and private payers, thus the federal government should leverage existing resources to explore alternative care models in order to accommodate and encourage innovation in healthcare delivery.

The Promise of Healthcare Technology

The future of healthcare transformation hinges on the ability for technology to meet clinician needs and maintain consumer/patient confidence. Federal policies that can result in the rapid deployment of life-saving and life-changing technologies to patients in the fashion desired by providers will be paramount. Technologies, from applications to devices, EHRs to wearables, must be safe, secure and reliable.

Improved outcomes, decreased costs and gained efficiencies will materialize most substantially when technology can be leveraged to exchange data seamlessly and securely and when reimbursement models allow providers the flexibility to determine the best technologies with which treat their patients, but federal incentives must be in place to keep pace. The federal government must avoid a heavy-handed approach to determining what technologies providers and patients must use. Further, regulators should take an approach that allows innovation to continue to flourish rather than prematurely try to certify or mandate these innovative technologies. The importance of reducing administrative duplication and redundant policies that may hinder success or interfere with other federal policy priorities should be a priority.

The promise of health information technology is undeniable and the rapid evolution of the field suggests innovation is not slowly, nor will it anytime soon. As the nation shifts to a value-based, outcomes-focused delivery system, it will be imperative that the role of health information technology is acknowledged and appreciated as policy and the industry matures.

INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

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September 29, 2016

The Honorable Patrick Tiberi
Chairman
Subcommittee on Health
Committee on Ways and Means
U.S. House of Representatives
1102 Longworth House Office Building
Washington, DC 20515

The Honorable James McDermott
Ranking Member
Subcommittee on Health
Committee on Ways and Means
U.S. House of Representatives
1139E Longworth House Office Building
Washington, DC 20515

Dear Chairman Tiberi and Ranking Member McDermott:

On behalf of nearly 12,000 chief fire and emergency medical services officers (EMS) of the International Association of Fire Chiefs (IAFC), thank you for the opportunity to submit comments on the importance of technology and innovation in healthcare. The IAFC strongly supports efforts to improve the use of technology by emergency responders in healthcare and many other areas. The IAFC encourages the members of the Ways and Means Subcommittee on Health to support the development and implementation of the First Responder Network Authority (FirstNet) as a way to improve and enhance the provision of emergency pre-hospital medical care.

As you are likely well aware, fire departments are one of the primary providers of EMS in communities throughout the United States. Our nation's fire departments stand ready to address a wide range of medical emergencies including trauma, heart attacks, strokes, accidental poisoning, public health crises, trouble breathing, diabetic complications, and other emergencies. Some communities also are beginning to utilize fire departments as a means of providing non-emergent preventative healthcare in programs known as "community paramedicine" and "mobile integrated healthcare."

Fire departments currently have to rely upon voice communications systems to share patient information between emergency responders and receiving hospitals. Some fire departments are able to share limited real-time patient data with a receiving hospital; however, this is far from being a national standard. Fire departments would be better positioned to address the medical needs of their communities if they had access to better and more reliable communications systems.

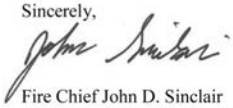
In 2012, Congress created FirstNet by passing the Middle Class Tax Relief and Job Creation Act of 2012 (P.L. 112-96). This law gave FirstNet the directive to establish a nationwide, interoperable public safety broadband network dedicated for first responders. When it is launched, this network will serve as one of the most robust tools to enhance public safety operations across the United States. The IAFC believes FirstNet will have many applications in EMS including sharing a greater amount of real-time patient information, expanding access to a patient's medical history, and enabling a virtual connection with physicians in a receiving hospital. These improvements will be especially helpful in rural communities where transportation times to a receiving hospital can exceed 30-60 minutes.

Current technology, employing both government or private radio systems and cellular networks, is limited in its capability to carry and efficiently share video, large files and packets necessary for communication between EMS and other medical providers. These same capabilities are vital in mass casualty incidents, active shooter and other hostile events where real-time video feeds are imperative to responders. In such critical situations, current communications systems are readily overloaded, severely limiting the ability of both responders and incident managers to view and share essential data.

The IAFC strongly encourages the members of this subcommittee to ensure FirstNet is supported and developed in such a way as to maximize its operability with the Centers for Medicare and Medicaid Services (CMS). Medicare beneficiaries represent one of the largest groups of EMS patients each year. Ensuring proper development and implementation of FirstNet for EMS operations will be crucial to improving the quality of care that Medicare beneficiaries receive. This subcommittee should pay careful attention to this issue and ensure that CMS' communications systems are compatible with FirstNet.

Thank you again for your attention to this important issue. Millions of patients enter the healthcare system through the back of an ambulance each year. FirstNet can be a great asset in allowing these patients to receive the best care possible. Our nation's fire departments already provide exceptional pre-hospital emergency medical care to their communities. FirstNet is an important opportunity to ensure fire departments can continue providing an exceptional level of medical care. I strongly encourage the Ways and Means Subcommittee on Health to continue supporting the development and implementation of FirstNet.

Sincerely,



Fire Chief John D. Sinclair
President and Chairman of the Board

/ed

NACDS NATIONAL ASSOCIATION OF CHAIN DRUG STORES

Statement

Of

The National Association of Chain Drug Stores

For

United States House of Representatives
Committee on Ways and Means
Subcommittee on Health

Hearing on:
"Exploring the Use of Technology and Innovation to Create Efficiencies, Higher Quality, and Better Access for Beneficiaries in Health Care"

September 14, 2016
10:00 A.M.

1100 Longworth House Office Building

National Association of Chain Drug Stores (NACDS)
1776 Wilson Blvd., Suite 200
Arlington, VA 22209
703-549-3001
www.nacds.org

The National Association of Chain Drug Stores (NACDS) thanks Chairman Tiberi and the members of the Subcommittee on Health for the opportunity to submit the following statement for the record regarding exploring the use of technology and innovation to create efficiencies, higher quality, and better access for beneficiaries in health care. NACDS and the chain pharmacy industry are committed to partnering with Congress, HHS, patients, and other health care providers to improve access to, as well as the quality and efficiency of, health care services.

NACDS represents traditional drug stores and supermarkets and mass merchants with pharmacies. Chains operate more than 40,000 pharmacies, and NACDS' chain member companies include regional chains, with a minimum of four stores, and national companies. Chains employ more than 3.2 million individuals, including 179,000 pharmacists. They fill over 2.9 billion prescriptions yearly, and help patients use medicines correctly and safely, while offering innovative services that improve patient health and healthcare affordability. NACDS members also include more than 850 supplier partners and over 60 international members representing 22 countries. For more information, visit www.NACDS.org.

As the face of neighborhood healthcare, community pharmacies and pharmacists provide access to prescription medications and over-the-counter products, as well as cost-effective health services such as immunizations and disease screenings. Through personal interactions

with patients, face-to-face consultations, and convenient access to preventive care services, local pharmacists are helping to shape the healthcare delivery system of tomorrow—in partnership with doctors, nurses, and others.

NACDS believes retail pharmacists can play a vital role in improving beneficiary health while reducing program spending, particularly in the Medicare program, through improving access for underserved beneficiaries and the better use of medication therapy management (MTM) services.

Pharmacists as Providers

As the U.S. healthcare system continues to evolve, a prevailing issue continues to be the adequacy of access to affordable, quality healthcare. The national physician shortage coupled with the continued expansion of health insurance coverage in recent years will have serious implications for the nation's healthcare system. Access, quality, cost, and efficiency in healthcare are all critical factors – especially to the medically underserved. Without ensuring access to requisite healthcare services for this vulnerable population, it will be very difficult for the nation to achieve the aims of healthcare reform.

The medically-underserved population includes seniors with cultural or linguistic access barriers, residents of public housing, persons with HIV/AIDS, as well as rural populations and many others. Significant consideration should be given to innovative initiatives within the medically underserved population to enhance healthcare capacity and strengthen

community partnerships to offset provider shortages and the surge in individuals with healthcare coverage.

Pharmacists play an increasingly important role in the delivery of services, including key roles in new models of care beyond the traditional fee-for-service structure. Pharmacists are engaged with other professionals and participating in models of care based on quality of services and outcomes, such as accountable care organizations (ACOs).

In addition to medication adherence services such as MTM, which is discussed in greater detail below, pharmacists are capable of providing many other cost-saving services, subject to state scope of practice laws. Examples include access to health tests, helping to manage chronic conditions such as diabetes and heart disease, plus expanded immunization services. However, the lack of pharmacist recognition as a provider by third-party payors, including Medicare and Medicaid, limits the number and types of services pharmacists can provide, even though fully qualified to do so. Retail pharmacies are often the most readily accessible healthcare provider. Research shows that nearly all Americans (89 percent) live within five miles of a retail pharmacy. Such access is vital in reaching the medically underserved.

We urge you to foster innovation in health care delivery by supporting H.R. 592/S. 314, the *Pharmacy and Medically Underserved Areas Enhancement Act,* which will allow Medicare Part B to utilize pharmacists to their full capability by providing those underserved

beneficiaries with services, subject to state scope of practice laws, not currently reaching them. This important legislation would lead not only to reduced overall healthcare costs, but also to increased access to healthcare services and improved healthcare quality, all of which is vital to ensuring a strong Medicare program.

The Benefits of Pharmacist-Provided MTM

Poor medication adherence costs the U.S. healthcare system $290 billion annually. Pharmacist-provided services such as MTM are important tools in the effort to improve medication adherence, patient health, and healthcare affordability. Studies have shown that patients who are adherent to their medications have more favorable health outcomes, such as reduced mortality, and use fewer healthcare services (especially hospital readmissions and ER visits). These studies included patients with cardiovascular disease, chronic obstructive pulmonary disease (COPD), high cholesterol, and diabetes. Current MTM restrictions require that Medicare Part D beneficiaries suffer from multiple chronic conditions, be prescribed multiple medications, and meet a minimum annual cost threshold for their prescriptions before they are eligible for Part D MTM. According to the CMS MTM Fact Sheet, approximately 85% of programs opt to target beneficiaries with at least three chronic diseases in 2014. This is a contributing factor to the lower than projected eligibility levels in the MTM program.

NACDS has long been supportive of exploring new and innovative approaches to improve the Part D MTM program. One of the approaches we believe can be successful is the Center

for Medicare and Medicaid Innovation's Enhanced MTM Model pilot. The pilot, scheduled to begin in 2017, will provide Part D plans the opportunity to utilize new and innovative approaches to MTM, such as more efficient outreach and targeting strategies and tailoring the level of services to the beneficiary's needs. The Enhanced MTM Pilot program presents an opportunity to create better alignment of program incentives and has the potential to lead to improved access to MTM services for beneficiaries and greater medication adherence. NACDS believes a successful model test must include retail community pharmacists. Medication management services provided by community pharmacists improve patient care; improve collaboration among providers; optimize medication use for improved patient outcomes; contribute to medication error prevention; improve hospital and readmission cost avoidance; and enable patients to be more actively involved in medication self-management.

Since the pilot is scheduled to last for five years beginning in 2017, we also urge lawmakers to explore new and innovative approaches to improving the Part D MTM program that could be implemented in the short term. NACDS believes one short term approach is more efficiently targeting beneficiaries who can most benefit from the services that will improve medication adherence and overall program effectiveness. Congress recognized the importance of MTM on a bipartisan basis, including it as a required offering in the Medicare Part D program. We urge Congress to build on this earlier action and strengthen the MTM benefit in Medicare Part D through support of legislation such as that introduced by Sen. Pat Roberts (R-KS) and Sen. Jeanne Shaheen (D-NH), S. 776, the *Medication Therapy*

Management Empowerment Act of 2015, which will provide access to MTM for beneficiaries with diabetes, cardiovascular disease, COPD, and high cholesterol.

Conclusion

NACDS thanks the Subcommittee for consideration of our comments. We look forward to working with policymakers and stakeholders on using innovative approaches to create efficienceies, enhance quality, and improve access to beneficiaries, particularly in the Medicare program.

care pathways

28.09.16

Better management and better care – Piloting a different approach for patients

Bernard Quinn, programme director for improvement at NHS Improvement, explains how the regulator is looking into ways hospitals can improve the way they manage patient journeys.

When you're at the coalface, it can be hard to find opportunities to improve the way you do things. We know that hospitals need to focus on their day-to-day work making sure services are being delivered and patients are being cared for. That is where we come in.

NHS Improvement is about more than just setting the pace for financial rebalance and supporting improvement. We are there to help do the research: speaking to trusts and reaching out to health professionals to see how we can help hospitals do things differently.

We scour the NHS and international health systems for innovative solutions to the challenges trusts face on a daily basis, looking for examples of successful improvements.

One area we are especially interested in is seeing how hospitals manage patient journeys and how they can use digital operational systems to do things differently.

Use of workflow management systems is well developed in the industrial sector where process planning, scheduling and flow control software are routinely used. This approach is beginning to move into the healthcare sector and we are keen to see how it can be used to improve patient experience.

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We have seen examples of how quality of care, capacity, costs, planning, leadership or processes (to name a few) can be improved. But rarely do we come across an innovation that addresses all these, and rarer still is an innovation that potentially results in a 10-25% gain in bed capacity across emergency and elective systems.

In the US we have seen how using systems that bring together clinical, financial and operational information can transform a patient journey from admittance to discharge. There are more than 800 hospitals in the US working with systems that help co-ordinate patient administration, theatres timetables, pathology and allied health systems to provide real-time insight into the operation and capacity of the whole hospital, helping to identify patients who might be at risk of delays against their expected pathway.

We have talked to some providers that have connected their operational systems through process flow software with their clinical systems and found that on average the capacity was improved by 15%, with some improving by as much as 25%.

Graph: US model of integrated patient pathway systems (N= 820 Hospitals)

A&E Breach reduction due to bed availability	Reduced 50-80%
Average Length Of Stay (AVLOS)	Reduced 0.5 -1 days
ITU discharge delays	Reduced 75%
Dead Bed Time	Reduced 80%
Theatre utilisation	Increased 10-20%
Hospital acquired pressure ulcers	Reduced 15-50%
Staff productivity	Increased 10-20%

Some trusts are already taking the initiative with similar approaches. In Lord Carter's report we referenced that Wolverhampton Hospitals NHS Trust used technology to track patients and medical equipment, such as pressure mattresses, using real- time ward screens and what is known as a centralised patient placement and co-ordination centre to work out which patients are behind their treatment plan, and how to resolve the delay. This is exactly the sort of innovation, and technology, which when used well can give trusts the opportunity to transform the way they deliver their services. It releases ward staff from chasing delayed results and helps patients have a better experience.

There are providers out there who are already working hard to improve the way they use up-to-date tools, but there are still too many using dry wipe boards and bed meetings to track thousands of complex patient journeys.

We want to expand on the work at Wolverhampton by piloting the technology programme with three acute, multi-site providers who are willing to invest and test out this approach and improve the way they manage their flow of patients in 2016-17.

So far we have two trusts who are looking to resource and test this approach and share the results with us, we are looking to find a third.

We will include these pilots in the national elective care plan for this year so that all regions and all providers get to see what's happening in these trusts, the issues they have to overcome and the benefits they see delivered.

I look forward to sharing the learning from these examples and hope to set a new standard of excellence in managing the patient's journey through the hospital in the same way we are used to seeing in the delivery of clinical care.

It will take a few months for the pilots to get going and we plan to share the learning from them, starting in 2017.

Have you got a story to tell? Would you like to become an NHE columnist? If so, *click here.*

comments

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RCSPG
Remote Cardiac Services Provider Group

STATEMENT FOR THE RECORD

Submitted to the House Committee on Ways and Means
Health Subcommittee

Wednesday, September 14, 2016

Hearing on "Exploring the Use of Technology and Innovation to Create Efficiencies, Higher Quality, and Better Access for Beneficiaries in Health Care"

10:00 AM | 1100 Longworth

House Committee on Ways and Means, Health Subcommittee members:

The Remote Cardiac Services Provider Group (RCSPG) is very pleased that the House Ways and Means Subcommittee on Health is a holding hearing on "Exploring the Use of Technology and Innovation to Create Efficiencies, Higher Quality, and Better Access for Beneficiaries to Health Care."

As an organization whose members have been at the forefront in providing remote cardiac monitoring services to hundreds of thousands of patients, including Medicare beneficiaries, we are very familiar with the clinical benefits and cost savings to the health care system associated with the use of innovative new technologies.

We think it would be useful for committee members to know how remote cardiac monitoring technology can create efficiencies through stroke prevention and reduction in hospital admissions and submit the following information for their consideration.

Clinical Benefits of Remote Cardiac Technology

- ***Who benefits from these technologies?***
  - ***Each year patients with a wide range of cardiac symptoms benefit from remote cardiac technology. About 10% of all Medicare beneficiaries receive some form remote cardiac services using these technologies.***
  - ***Remote cardiac technologies are especially appropriate for patients with difficult to diagnose cardiac conditions, such as***:
    - Patients with atrial fibrillation (AFib) that may be asymptomatic
      - Patients with AFib have a 4-5 times greater risk of stroke and an approximately two-fold increase in mortality.
      - **AFib accounts for 15-20 percent of ischemic strokes or between 120,000 and 160,000 strokes annually**.
      - As many as 48% of patients with AFib may have no symptoms (i.e., "silent Afib").
      - Prompt and accurate diagnosis can be lifesaving.
      - Understanding the amount and frequency of AFib may aid in treatment decisions.
      - Remote cardiac monitoring can improve detection of AFib and lead to appropriate treatment.
    - Patients with syncope and collapse (fainting which may be caused by arrhythmia that requires treatment such as a pacemaker implant, etc.)
    - Other difficult to diagnose heart conditions such as conduction disorder, ventricular tachycardia, and palpitations.
- ***What is AFib?***

- AFib is characterized by irregular asynchronous beating of the upper chambers of the heart (the atria).
- It is the most common serious heart abnormality in older individuals.
- **Approximately 2.66 million Americans have AFib**.
- Patients with AFib are at increased risk for stroke.

❖ ***What is "Silent" AFib?***

- In a large number of cases, possibly as many as 48%, the patient experiences no symptoms and thus is unaware that AFib is occurring. This is known as "silent AFib."
- Untreated AFib doubles the risk of heart related deaths.

❖ ***What is relationship between AFib and Stroke?***

- Stroke is the 4th leading cause of death in the United States.
- Annually, about 795,000 individuals in the United States suffer a stroke and approximately 140,000 die from it.
- AFib increases the risk of stroke by 4 to 5 times and accounts for 15-20 percent of strokes or between 120,000 and 160,000 strokes annually.
- Recent studies using remote Mobile Cardiac Telemetry (MCT) have shown that 17-38% of patients with cryptogenic strokes experienced episodes of AFib.
- Strokes resulting from AFib are often major strokes causing significant disability or death.
- Fifty percent of AFib patients who experience a stroke die within one year.

❖ ***What are healthcare costs associated with stroke?***

- Overall U.S. healthcare costs associated with stroke were approximately $53.9 billion in 2011.
- All-payer costs for a stroke inpatient admission are $18,439 (based on 2007 dollars).
- Medicare DRG payments for a stroke admission are between approximately $4300 and $14,716 depending on severity.
- <u>These costs do not include</u> the additional rehabilitation costs or societal costs associated with long-term or permanent disability.

❖ ***Why is prompt diagnosis of AFib important?***

- Diagnosis of AFib is essential if medical treatment and lifestyle changes are to be initiated.
- A recent study shows that use of outpatient cardiac monitoring after an ischemic stroke would detect 44 new cases of AFib for every 1000 patients monitored and would result in a gain of 34 quality-adjusted life-years because of the timely initiation of anticoagulation therapy.

<u>Remote Cardiac Technologies</u>

❖ ***Holter monitoring*** is a relatively inexpensive way for physicians to obtain short term, 24-48 hours, of electrocardiographic (ECG) diagnostic data. Downside is the relatively short time frame that may result in missing critical events needed for diagnosis.

❖ ***Cardiac Event Monitors (CEM)*** are longer term, up to 30 days, and have the capacity to record a number of events of 10-20 minutes of ECG storage which can be transmitted electronically to

a monitoring center. These devices may be patient activated or auto-triggered using an internal arrhythmia-detecting algorithm.

- ***Mobile Cardiac Telemetry (MCT)***. MCT is the first technology to use a wireless device to record and monitor, in real-time and continuously, patient ECG heart information for the purpose of identifying heart conditions and arrhythmias. MCT is based on a sophisticated arrhythmia detection algorithm and the recording and transmission of arrhythmias, through advanced wireless communication technology and is designed to capture every heart beat
- ***Other Technologies.*** Monitoring of Pacemakers and Implantable Cardiac Defibrillators (ICD); INR/PT monitoring; Implantable Cardiac Monitor (ICM)

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Thank you for your consideraiton of this important information for the Medicare patients served by these important technologies. For questions about the attached or for further information from our remote cardiac monitoring provider experts, please contact...

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Utilizing Technology to Create a Centralized Hospital Operations Center
Carilion Clinic

Not unlike many health systems, Carilon Clinic is faced with daily challenges surrounding patient flow and throughput. This is especially challenging at our primary campus which runs at 98% capacity or greater. Recognizing the importance of capacity and patient flow issues led us to develop a task force several years ago to recommend solutions.

In 2012, we created a centralized operations center, which housed our bed placement/patient transfer center, transportation dispatch center, and clinical transport dispatch. Our goals for this center were to facilitate seamless entry of patients into our health system, coordinate the safest, most appropriate transport for these patients, and efficiently manage all hospital throughput needs. We also identified the need for improved processes, and in our design we were guided by the California Healthcare Foundation model of best practice for patient tracking.

As a result of our efforts, immediate synergies were created in the center to improve patient throughput and provide better customer service to our referral network. At the hub of our operations is Teletracking's patient flow technology, which includes an electronic system that provides real-time capacity updates, including projected discharges and incoming bed placement needs.

Outcomes

Immediate improvements created by this new "mission control" model quickly became apparent from both a throughput and customer service perspective. Results include the following:

- 15% increase in patient transfer requests from 2012-2014 (this increase has been sustained through 2016).
- Addition of nearly 1000 patients accepted per year, while running at an average occupancy of 95-98%
- Successfully added 38 adult inpatient beds based upon projected census needs
- 50% reduction in "stat" environmental services cleans resulting from earlier notification and prediction of work flows
- Reduction in inpatient bed assignment times for ED patients (avg. 6 minute reduction per patient, which equates to 1,480 hours or 62 days of reduced ED wait time).
- Reduction in inpatient bed assignment times for post-op patients (8 % reduction is bed assignment times once patients are deemed ready to move).
- Reduction in ICU dwell time (compared to our 2012 baseline, the avg. patient transfer time out of an intensive care unit has improved by 175 minutes per patient. At 3.438 transfers in the 2016 time period, this improvement eliminated 10,028 hours (or 418 days) of wait time in an ICU bed. These efforts allow more readily accessible capacity for the sickest of our patient population.
- Better utilization of our secondary campuses, allowing more capacity at our tertiary care center: after implementing centralized operations for our second largest campus, we saw a 73% annual increase in their accepted transfer cases, and 84% increase in overall transfer volumes.
- We have maximized our ability to achieve real-time situational awareness of current and projected capacity. This is critical from an emergency management standpoint, and allowing us to report to our region what our surge capabilities are at any given time during any type of large scale event.

○